

Official  
Journal  
of the  
Canadian  
Hospital  
Council

# THE *Canadian Hospital*



Volume  
13

Number  
7

JULY,  
1936

## Wood's BABY SOAP

### RECOGNIZED BY HOSPITALS AS THE SAFE SOAP FOR NEW BORN BABIES

In the selection of a soap for use in bathing new-born babies there can be but one standard—pure liquid castile—produced from the finest edible olive oil obtainable. The answer is WOOD'S BABY SOAP, manufactured under rigid laboratory control.

The Wood's portable Baby Soap dispenser provides a sanitary, economical bathing technique. It can be operated with the hand, wrist or arm—dispensing a measured quantity of Wood's Baby Soap directly into the palm of the hand.

Write for prices and details of  
how you can obtain the portable  
Baby Soap Dispenser—on loan.

*Wood's* Green Surgical Soap

•  
*Wood's* No. 500 Non-Slip  
Floor Wax

•  
*Wood's* Zef-ir Deodorizing  
Blocs

•  
*Wood's* Water Coolers

•  
Vortex Paper Drinking Cups

•  
Floor Polishing and Cleaning  
Equipment

## G. H. WOOD & COMPANY LIMITED

Factories, Laboratories and Main Offices:

1244 DUFFERIN ST., TORONTO

440 ST. PETER ST., MONTREAL

Branches: EDMONTON, LONDON, HAMILTON, OTTAWA, QUEBEC, SAINT JOHN, N.B., HALIFAX, N.S.

# Things you might not have known till now about Sterilizer Controls

## YOU DO KNOW THAT:

The whole success of autoclave sterilization is based on the use of STEAM as the sterilizing agent.

Exposure to steam at 250° F. for 15 minutes is the minimum for safety—most authorities recommend 20 minutes to include a "margin of safety."

The "end point" in sterilizer controls should be sharp and definite to obviate any possibility of error.

Rubber materials must be sterilized under different conditions from those generally used for fabrics in order to preserve their wearing qualities.

The U.S. Government purchases supplies according to specifications of quality and performance. The U.S. Veterans Administration has such WRITTEN SPECIFICATIONS OF QUALITY for sterilizer controls.

## BUT DO YOU KNOW THAT:

Of all sterilizer controls available, ONLY A.T.I. requires moist heat to cause its reaction.

ONLY A.T.I. takes this full 20 minutes—250° F. or equally lethal temperature-time ratio to complete its reaction.

ONLY A.T.I. has an "end point" in which the evidence of complete reaction is based on comparison between entirely different colors (lavender and green) instead of varying shades of the same basic color.

ONLY A.T.I. supplies a sterilizer control manufactured SPECIFICALLY for checking the sterilization of rubber materials.

ONLY A.T.I. fulfills these WRITTEN SPECIFICATIONS OF QUALITY for sterilizer controls.

Canadian Agents: THE J. F. HARTZ CO., LTD.,  
34 Grenville St., Toronto  
1434 McGill College Avenue, Montreal

**A.T.I.**



**Aseptic-Thermo-  
Indicator Co.**

## NURSERY BASSINETTE

Made from Tubular  
Steel — Rigidly constructed.

Size 16" wide.

28" long.

38" overall height.

23" high to spring.

Mounted on Noiseless

Free Running Casters.

Finish any color.



Springs of  
Sagless type  
Removable  
and  
Adjustable  
to  
Inclinable  
Position.

Cat. No. 4011

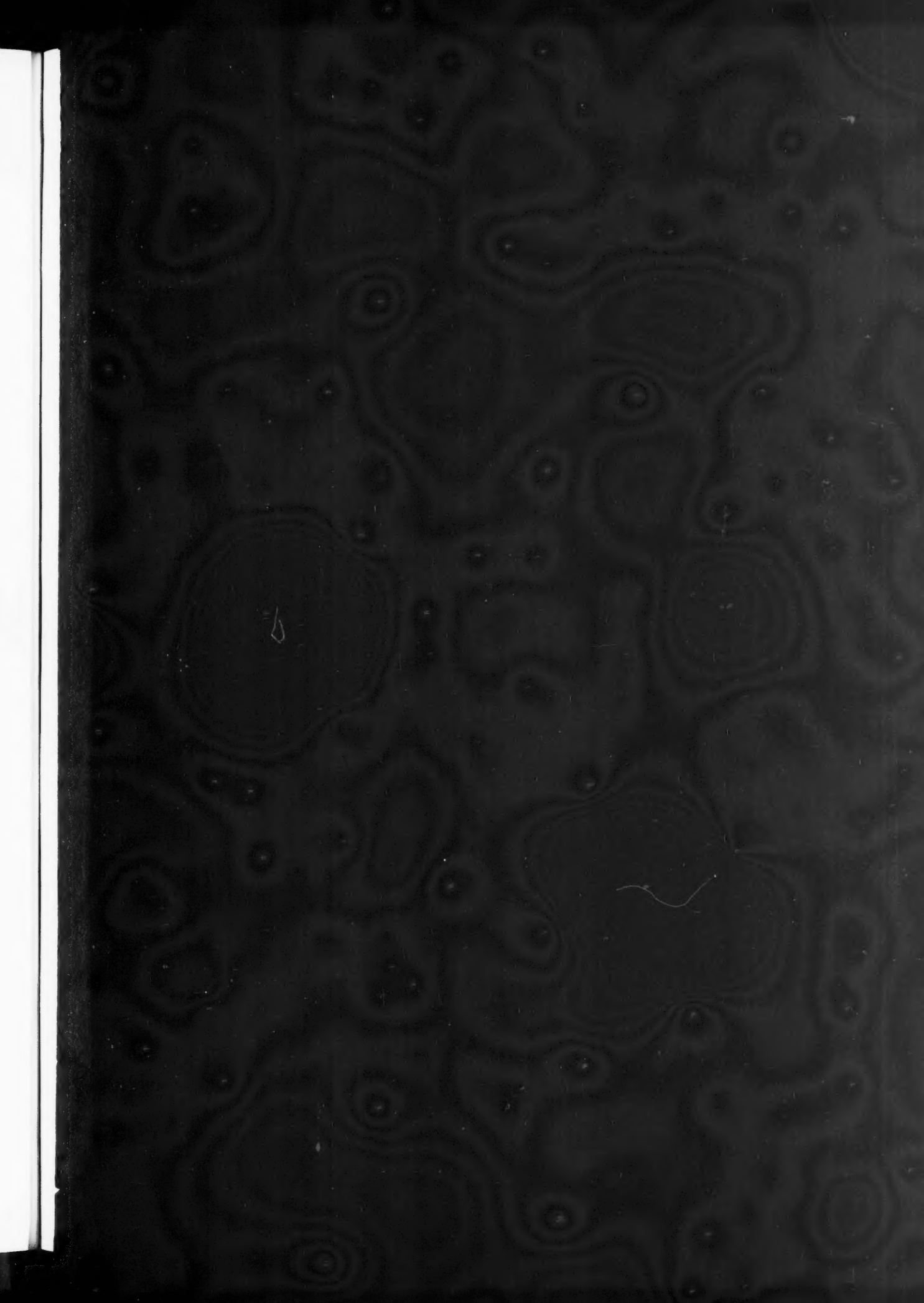
**THE METAL CRAFT CO., LIMITED**

*Manufacturers of Metal Hospital Equipment.*

**GRIMSBY**

**ONTARIO**

The CANADIAN HOSPITAL







# ***His trouble started*** **A LONG TIME** **AGO**



SO MANY people have no real idea of the cause and effects of common constipation. Frequently, they treat it too lightly and develop a run-down condition. Their lowered resistance may be the first step to serious illness. Then only do they see the doctor. Others try to dose themselves—often with harmful results.

If they could only be impressed with the fact that constipation is usually due to insufficient “bulk” in meals. Its correction is largely a matter of proper diet. Kellogg’s ALL-BRAN is a pleasant, convenient source of gentle “bulk.” It is not broken down in

the body as much as the “bulk” in fruits and vegetables. So ALL-BRAN is often more effective.

Scientific tests have shown that Kellogg’s ALL-BRAN is a natural laxative food for normal people. It may be served as a cereal with milk or cream; sprinkled over soups, salads, or other cereals; or cooked into muffins, breads, waffles, etc. Sold by all grocers. Made by Kellogg in London, Ontario.

***The natural food* THAT CORRECTS CONSTIPATION**



# The Canadian Hospital Council

The Federation of Hospital Associations in Canada in cooperation with the Federal and Provincial Governments and the Canadian Medical Association.

## Honorary President:

HON. C. G. POWER, Minister of Pensions and National Health, Ottawa.

## Honorary Vice-President:

F. W. ROUTLEY, M.D., Secretary, Red Cross Society, Toronto.

## 1st Vice-President:

REV. GEO. VERREAULT, O.M.I., Auditor, Ottawa General Hospital.

## 2nd Vice-President:

GEO. F. STEPHENS, M.D., Superintendent, Winnipeg General Hospital.

President: W. R. CHENOWETH, Superintendent, Royal Victoria Hospital, Montreal.

A. F. ANDERSON, M.D., Superintendent, Royal Alexandra Hospital, Edmonton.

## Secretary-Treasurer:

HARVEY AGNEW, M.D., Secretary, Department of Hospital Service, The Canadian Medical Association, 184 College St., Toronto.

REV. H. G. WRIGHT, Sec. Inverness County Memorial Hospital, Inverness, N.S.

## EDITORIAL BOARD

LEONARD SHAW, B.Sc., Superintendent, Saskatoon City Hospital, Editor.

HARVEY AGNEW, M.D., Toronto.

R. FRASER ARMSTRONG, B.Sc., Superintendent, Kingston General Hospital.

A. K. HAYWOOD, M.D., Superintendent, Vancouver General Hospital.

S. R. D. HEWITT, M.D., Superintendent, Saint John General Hospital.

J. G. MacKENZIE, M.D., Superintendent, Montreal General Hospital.

H. A. ROWLAND, Phm B., Superintendent, Riverdale Isolation Hospital, Toronto.

REV. GEO. VERREAULT, O.M.I., Ottawa.

## CONTENTS

The Clinical Record - - - - - 9

*Arthur Steindler, M.D., F.A.C.S.*

Should Internship be Obligatory? - - - 11

*G. H. A.*

Obiter Dictum - - - - - 13

Intravenous Solutions - - - - - 15

*S. T. Martin, M.A.C.H.A.*

Should Anaesthetic Apparatus be Grounded? - - - - - 18

Hospital Statistics - - - - - 20

We Would Like to Know - - - - - 23

The Growth of Household Science in Ontario - - - - - 24

Here and There in the Hospital Field - 26  
*Harvey Agnew, M.D.*

## PUBLICATION COMMITTEE

A. J. SWANSON, General Superintendent, The Toronto Western Hospital, Chairman.

J. H. W. BOWER, Superintendent, Hospital for Sick Children, Toronto.

GEO. A. MacINTOSH, M.D., Superintendent, Victoria General Hospital, Halifax.

JAS. H. McVETY, Treasurer, Vancouver General Hospital.

GEO. E. ROGERS, Purchasing Agent, Winnipeg General Hospital.

A. G. SMITH, Assistant Superintendent, Royal Victoria Hospital, Montreal.

CHARLES A. EDWARDS, Business Manager, 177 Jarvis St., Toronto.

## INDEX TO ADVERTISERS

Aseptic-Thermo-Indicator Co. ....	II Cover
British & Colonial Trading Co., Limited .....	26
Buyers' Directory .....	29-30
Canadian Feather & Mattress Co., Ltd. ....	III Cover
Canadian Feather & Mattress Co. of Ottawa, Ltd. ....	III Cover
Canadian Ice Machine Co., Limited .....	5
Canadian Industrial Alcohol Co., Limited .....	27
Canadian Industries, Limited .....	27
Canadian Laboratory Supplies, Limited .....	23
Central Scientific Co., of Canada, Limited .....	17
Davis & Geck, Inc. ....	4
Down Bros. Limited .....	5
Dustbane Products, Limited .....	21
Dominion Oilcloth & Linoleum Co. Ltd. ....	8
Gooderham & Worts, Limited .....	21

Hayhoe, R. B. & Co., Limited .....	21
Hees, Geo. H. Son & Co., Limited .....	6
Kellogg Co., of Canada, Limited .....	3
Metal Craft Co., Limited .....	II Cover
Northern Electric Co., Ltd. ....	19
Parkhill Bedding, Ltd. ....	III Cover
Standard Tube Co., Limited .....	23
Sterling Rubber Co., Limited .....	26
Sydenham Hospital .....	21
Vancouver Bedding, Ltd. ....	III Cover
Wander, A., Ltd. ....	2
Walker, S. C. Mfg. Co., Ltd. ....	IV Cover
Wood, G. H., & Co., Limited .....	I Cover

The Canadian Hospital is published monthly by The Canadian Hospital Publishing Co., 177 Jarvis Street, Toronto, Ont. Subscription Price in Canada, \$1.00 per year. Authorized by the Post Office Department as Second Class Matter.



D & G Kangaroo Tendons are painstakingly selected and processed to insure smoothness, uniformity, and exceptional strength. They are genuine tendons from the tail of the Wallaby Kangaroo. Prepared in two varieties—Boilable for those preferring to sterilize the outer surface of tubes by boiling or autoclaving, and Thermo-flex for those desiring maximum flexibility.

Both varieties are heat sterilized in glass tubes, each tube containing one tendon. Lengths vary from 12 to 20 inches.

No. 370.....Thermo-flex (*non-boilable*)

No. 380.....Boilable

Sizes: 0..2..4..6..8..16..24

In packages of 12 tubes of a kind..\$3.60

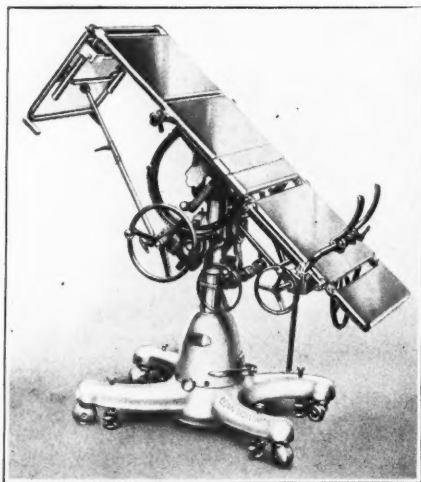
D & G Kangaroo Bands are especially prepared for the surgical treatment of fractures. They consist of Thermo-flex (*non-boilable*) Kangaroo Tendons with flattened central areas. Heat sterilized in glass tubes, each containing one band. Available with flat area lengths of 4½, 5½ and 6½ inches.



No. 378, in packages of 12 tubes of a kind.....\$4.80

DAVIS & GECK, INC., 217 DUFFIELD STREET, BROOKLYN, NEW YORK

OBTAINABLE FROM RESPONSIBLE CANADIAN DEALERS.



**THE "WESTMINSTER HOSPITAL"  
MODEL OPERATION TABLE**

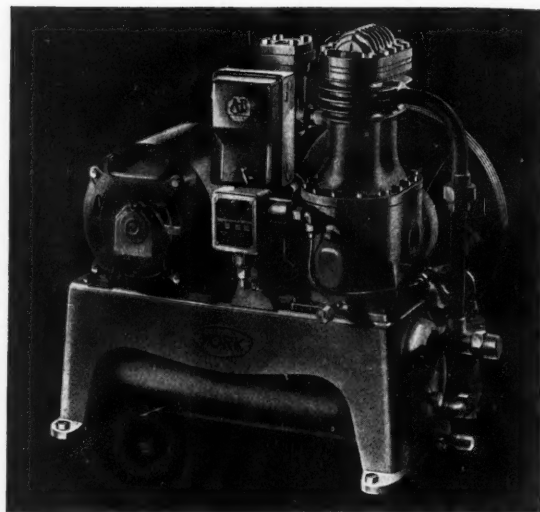
We shall be pleased to send particulars of this and other Tables of our manufacture on request.

**DOWN BROS. LTD. (London, Eng.)**

143 COLLEGE STREET, TORONTO

Telephone Waverley 9245

Manufacturers of Surgical Instruments and Hospital Equipment.



"YORK" Freon Units are particularly suitable for any Hospital Air Conditioning.

The New Safest  
Non-poisonous  
Non-inflammable

**Refrigerant**

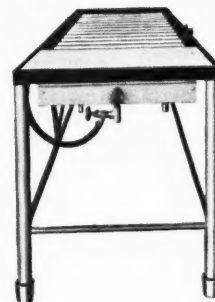
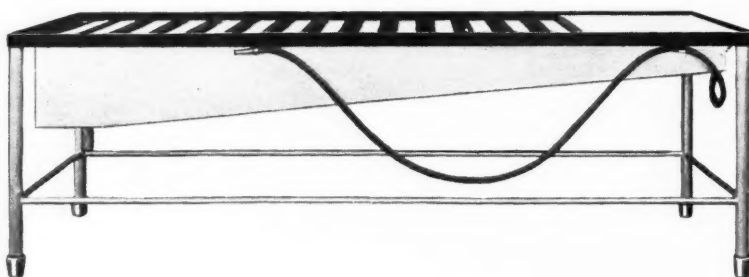
SUPPLIED AND INSTALLED BY

**Canadian Ice Machine Company, Limited**

Montreal — Toronto — Winnipeg — Edmonton — Vancouver

# STAN-STEEL AUTOPSY TABLES

**QUALITY · EFFICIENCY · REASONABLE PRICE**



- Inside tank finished in chemical proof black enamel.
- Removable cadaver supports of polished cast aluminum.
- Large removable dissecting board.

- Continuous flowing film of water in tank carries all fluids away immediately.
- Provided with head rest, swinging instrument tray and flushing hose.
- Adequate size 30" x 109" x 34" overall. Also made with full stainless tank.

**Standard Tube Company Limited**

**WOODSTOCK**

*Furniture Division*

**ONTARIO**





*Solarium in New Extension, Toronto Western Hospital.*

## HEES VENETIAN BLINDS

With the dog days and the glaring heat of summer to contend with, modern hospitals are using these blinds to light-condition all rooms and offices. With their use it is possible to diffuse strong sunlight, eliminating all glare, admitting and controlling just the degree of daylight desired. A simple turn of a cord adjusts light—an automatic stop on all HEES VENETIAN BLINDS holds the blind as required. Uninterrupted ventilation is assured.

HEES VENETIAN BLINDS are reliable, lasting a lifetime, with no intricate mechanism to go out of order. They are easily kept immaculately clean.

Write for illustrated folder and colour chart—a wide range of beautiful colours has been developed, each with regard to its light-giving qualities. Over sixty years of equipping Canadian windows in hospitals, schools, residences and public buildings, is placed at your service in any window problem.

*Sold by leading house furnishing stores and interior decorators.*

MANUFACTURED ONLY BY

**GEO. H. HEES SON & COMPANY LIMITED**  
**TORONTO MONTREAL**

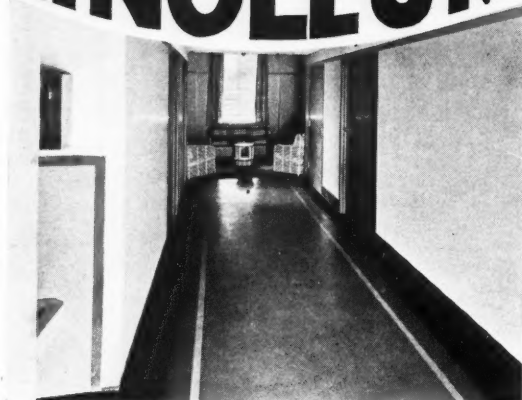




Chosen by Canada's Leading Hospitals . . .



# DOMINION BATTLESHIP LINOLEUM



## The *Germicidal* Floorcovering

Quiet . . . easy-to-clean . . . adaptable to almost any scheme of interior decoration, Dominion Battleship Linoleum has the further advantage of being GERMICIDAL. Science has proved that germs cannot live on it. That's why Dominion Battleship Linoleum is the choice of Canada's leading hospitals—including the Toronto Western Hospital (Govan, Ferguson & Associates, Architects) two photographs of which are reproduced here. Dominion Battleship Linoleum is available in 19 different colours and effects, including marbles and jaspés. Laid according to our specifications, it is guaranteed for five years. Consult your architect or floor-covering contractor . . . or write for further particulars.

**DOMINION OILCLOTH & LINOLEUM COMPANY LIMITED, MONTREAL**

# THE CLINICAL RECORD

## A Criterion of the Surgeon's Efficiency\*

ARTHUR STEINDLER, M.D., F.A.C.S.,

Professor of Orthopedic Surgery, State University, Iowa City, Iowa

IT is rather commonplace to say that a case record reflects the sum total of the medical skill expended by the surgeon upon a particular case. In one instance it is a testimonial of a clear and observing eye, of a keen and orderly mind, of a wide range of information; it is a triumph of the power of inductive analysis and of deductive reasoning; a moment of experience, of knowledge and of practicality. In another case it represents a meager collection of incoherent and often irrelevant facts which are poorly arranged, poorly co-ordinated, and not infrequently poorly expressed. From such an arid field little can be gleaned for purposes of interpretation and of conclusion.

It is obvious that the clinical record embraces the entire ingenuity of the surgeon's approach to the patient, reflects his extensive background of general medical knowledge, and projects into the foreground his faculties of observation, his discernment between the essential and the irrelevant, and his powers of intuition and deduction.

The American College of Surgeons is undoubtedly justified in considering the clinical record as *the fundamental* in medical practice, as it is the most essential single factor in establishing the minimum standard. By its insistence upon adequate records the College very correctly recognized this as one step in the direction of advancing medical service, an advance which could be most effectively and usefully influenced by setting up a minimum standard to govern it.

But the College can do no more than set up a framework which the methodic individual may apply in securing information. The minimum standard is a flood gate to prevent the escape of information which can be gleaned from the material at hand. The technique which has been set up by the College for the compilation of clinical records has been elaborated in very precise detail: Complaints, present illness, family history, past history, physical and laboratory examination, pathology, treatment, and progress. Each item is duly tabulated and it would seem that with such guidance uniform reliability and completeness should be assured. No doubt this is true in a great measure. It would be difficult to have much pertinent information leak through unless by wilful neglect.

At the Clinical Congress in San Francisco the opinion was voiced from all quarters—administrators as well as medical representatives of hospitals—to the effect that the standing of every branch of the service in a hospital depends absolutely upon the quality of the patient's record, and that the minimum standard as set up by the College is a most effective safeguard against a deterioration of records to the deplorable state in which they were and in some places still are found to be.

Speaking particularly for the branch of surgery with

which I am closely connected I may say that in the last three decades I have seen many varieties of surgical records, good, bad, and indifferent; and, not unlike most of you, I have worried greatly over the problem of maintaining a standard which will be of immediate value to the patient and of future value for scientific analyses. But it is clear that even under the minimum standard which has been set up by the College, there will continue to be great variation in the quality of information, even if the quantity is to a great measure safeguarded by the standard. The many pigeonholes of its structure may be filled by valuable information on one hand, and by more or less useless data on the other. It depends largely upon the ability of the individual who extracts the information.

It has been said that the diagnosis reflects to the extent of ninety per cent the case history as such. If this is the case, then it would seem that the individual who records the history deserves ninety per cent of the credit if the diagnosis is correct, and as much of the blame if it is incorrect. Since it is usually a junior member of the staff or some younger assistant who records the case history, the attending man who is responsible for the case must see to it that the younger men become as skilled as himself in taking the history.

Frequently I have wondered if undergraduate education equips the students adequately for this task. I have no doubt that the graduates of the leading medical schools are competent to record comprehensive case histories in general surgery and medicine and the major branches of medicine and surgery; but I seriously doubt if this may be said of the specialties, such as orthopedics or genito-urinary surgery. It is primarily a question of correlation of facts. What basis has the young intern for appreciating the connection between malnutrition and flat-feet, or the correlation between familial and constitutional relaxation and habitual dislocation of the patella? He does not know that hereditary factors are very strong in certain cases of congenital deformities, and therefore that data on familial history are important, whereas in other conditions the hereditary factor is insignificant. There are, in short, many facts pertaining to general constitutional conditions which are of great importance in the history of deformities and skeletal diseases, which facts cannot possibly be packed into the crowded curriculum of the medical student in his undergraduate years.

1. It follows then that one of the most important obligations of the senior member to his younger colleagues is a systematic instruction in recording anamnesis. Such instruction covers the entire field of the specialty, so widespread and interwoven are the threads leading from the general medical aspect to the special pathological condition. We forget that we cannot expect more from the graduate than a general medical knowledge, and that we cannot expect that knowledge to cover the detailed information which is so important in the special branches of

\*This article, presented at the Sectional Meeting of the American College of Surgeons, Omaha, Nebraska, 1936, and printed in the June Bulletin of the College, is reprinted in The Canadian Hospital by courtesy of the American College of Surgeons and the author.

medicine and surgery. In orthopedic surgery we have found it of value to give the junior member some post-graduate instruction in symptomatology, that is, the significance of symptoms, and their possible correlation with a general medical background. The significance of pain, weakness of the muscular system, the meaning of tiredness and fatigue, of low basal metabolism, the relationship between posture and peripheral symptoms of the locomotor system, the long range effect of occult muscle imbalance as in spina bifida or in infantile paralysis, all of these topics and many others should be taken up in the interest of making the historical part of the record more complete and comprehensive.

2. Then there is the problem of the routine laboratory examination. I shall not speak of the current examination of blood and urine, or the taking of the temperature and blood pressure, which so obviously belong to the general examination that they cannot possibly be neglected in any case. But the question is, which of the special laboratory examinations should be accepted as routine. Let us take, for instance, a case of arthritis. So many factors have been brought into the etiology of this condition that in order to follow up all possible clues the laboratory examination would be far too unwieldy for practical purposes. It is a real problem to select carefully those examinations which are of sufficient importance and proven value to be included as routine procedures. In cases of arthritis, for instance, there is added to the routine work, aside from the general examination of blood and urine, the recording of the basal metabolism, sugar tolerance, and the blood and urinary calcium and phosphorus content. However, other surgeons may have different ideas of what is necessary in the laboratory investigation of an arthritic case. But, whatever may be considered essential, there must be set up a scheme which the examining intern or junior member must follow. Amplification of the examination to include determination of cystine content or of fat content of the blood should be a matter of decision from time to time, but the point is that in each condition the surgeon himself should decide upon and control the routine procedure, and when this information is transmitted to the intern he should be told why such a standard is maintained. The same thing may be said of focal infections. Some surgeons may request a routine examination, others may not. We commend the procedure because our percentage of incontestable improvement after foci removal is high enough to satisfy us that careful and definite examination is important.

In a word, the intern should not have the responsibility of determining the extent of the laboratory examinations, but he should be instructed as to the kind of laboratory examinations which are to be undertaken in different groups of cases and the reason therefor.

#### **The Technique of Measurements**

3. The next consideration is the taking of measurements and keeping of graphic records. Because of the importance in orthopedic surgery of following the progress of each case by graphic methods, the technique of measurements is a major issue, and with this I have had endless trouble. Only after the surgeon has agreed upon the exact method which he considers the most practical and most reliable can he find some peace of mind. The records may relate to sensory and motor disturbances, or examinations of the surface temperature, or determinations of

the scoliotic deviation of the spine, or determination of muscle tone or graphic presentations of static disalignments, or inventories of paralyzed muscles as in anterior poliomyelitis—in any case there must be a well recognized, a well established and particularly a well explained method. It will prove time well spent if the senior or attending man will devote a few hours to the explanation and practice of methods he uses in taking measurements and in keeping graphic records. In spite of this, errors will occur due to individual variations of impressions, but much confusion will be avoided if competent instruction is given along this line. For instance, in the simple measurement of range of joint motion, the designation of ranges and its terminology are often so vague that only very precise instructions imparted by the senior member will preclude much confusion and inaccuracy.

4. I believe that therapeutic methods should be explained in simple terms, and that involved expressions should be used as infrequently as possible. It is especially annoying if operations are designated by names which are meaningless except to one who is particularly familiar with the operative procedure itself, for it is usually just as simple to describe the essentials of the operation in understandable English. Deviations from the technical routine are much too frequent and are favored usually by the younger men. Such deviations should be described in detail and should be justified. There is no better deterrent from the mania of individual modifications of standard methods than to require that details be recorded in the operative history with precise explanation of the necessity for deviation from a proven technique.

#### **Follow-up of Results**

5. In reference to progress notes and follow-up of the result of treatment, this again falls under the heading of the case record, particularly graphic records and measurements. In following up their cases, orthopedic surgeons depend to a great extent upon photographs and X-rays. It is important to establish some uniformity in this procedure, especially as to the size of the picture and the conditions which exist at the time it is taken. It is very difficult for the attending man or the chief of the service, particularly in dealing with out-patients, to designate in each case the need for a follow-up record. I have found it necessary to formulate certain guiding principles under which the younger man may determine for himself when and how a case should be followed, including the later supervision of the social service department and follow-up with the patient by questionnaire. It is difficult to formulate a questionnaire which is simple, precise, and yet comprehensive. Complicated questionnaires are always answered in an unsatisfactory manner. To secure from the patient the information which is desired plain questions should be put, and as pointedly as possible. Questionnaires which deal with statistical studies should be prepared with great care, preferably by a senior member, or at least under his supervision. The more numerous the questions, the greater the number that will remain unanswered.

In conclusion may I repeat that the American College of Surgeons, by setting up a minimum standard for clinical records, has not only rendered a signal service to medical practice, but in doing so it has done all that it can do to guard against the deterioration of medical records



into useless documents. The quality of the record is directly dependent upon the younger man who takes it, but it is, indirectly, under the control of the senior man who is responsible for each item of which the record is composed. Especially do I wish to emphasize that it is not only advisable, but absolutely necessary that the junior member be given systematic instruction pertaining to all parts of clinical records, and this instruction should be extensive and comprehensive enough to familiarize him with the general facts which bear upon a special case, facts with which he would otherwise be entirely unacquainted. The essence of this teaching should show the symptomatic significance of certain special conditions and point out general constitutional factors which underlie them. I would emphasize furthermore that in the routine of laboratory examinations a certain standard for each individual group of cases should be set up by the chief of the service. In the taking of medical graphic records

or any records which require scientific accuracy, it is necessary to impart to the younger member such relevant information as he does not get in his undergraduate studies, and thus familiarize him with the technique of exact measurements and records, including photographic or x-ray evidence, etc. Finally, in order that end results may be evaluated, a routine technique of after-treatment and supervision should be insisted upon, in which the social service department should share the responsibility with the medical staff.

In my opinion, if records are incomplete to the point of uselessness the fault does not rest entirely or even to a degree with the junior members. I think we will not have good and adequate records until the chiefs of the services or the older members of the staff take the time and trouble to give to the junior members of their organization systematic instructions governing all phases of case record taking.

## Should Internship Be Obligatory?

G. H. A.

**N**OWADAYS nearly every medical graduate, who intends to practice medicine, takes one or more years' internship. Very few indeed of the final year men now go directly into practice without having supplemented the academic training by a period of internship. In days gone by only the fortunate few were able to avail themselves of this training, but we are now informed that many times the entire class will have obtained appointments, either on hospital wards or in their laboratories, and we are informed also that, in some of the provinces, practically all applications for licensure received are from those who have had one or two years of practical hospital work at least.

In fact, an internship must have been taken before the academic degree is awarded by several of our medical schools. This applies to the medical schools at Manitoba, Dalhousie and the University of Montreal, to some extent at Queen's, and will shortly become effective in the revamped course at McGill. In the other medical schools, final year students may "live in" as undergraduate interns, but such is not required by the university, and in these universities the internship is routinely taken after graduation, not as a detail of requirement, but because of the general recognition of the value of this extra training. So valuable is the internship considered to be and so much keener has competition in an overcrowded profession become, that the recent graduates are realizing that the "race is to the strong" and, of their own volition, are taking not one year of internship but two, three or even more.

If the value of the internship is thus so generally recognized, both by universities and by the recent graduates and, if almost all of the young medical men are seeking this training voluntarily, would the time not seem due when our various licensing bodies in Canada should make this requirement essential for licensure to practice medicine. Naturally, this is not a matter for decision by the hospitals; it is entirely the prerogative of the licensing bodies, but our hospitals are very much interested in this possibility which, without question, will be an accepted require-

ment in the course of time, because the hospitals are vitally concerned with the provision of this training.

At the present time no licensing bodies in Canada require internship experience. This applies to all of the provincial licensing bodies, usually termed the College of Physicians and Surgeons to distinguish it from the provincial medical association. The Medical Council of Canada is in a somewhat different position. Most young men going through medical school to-day take their M.C.C. examination rather than the provincial one, because it permits them to practice in any province merely by the payment of the statutory registration fee. The standards of the Medical Council of Canada are governed, to a considerable extent, by the standards set by the provincial bodies, for it is set down that "The standard of examination shall not, at any time, be lower than the highest standard for the like purpose then established for ascertaining the qualification for registration in any province." While the Dominion licensing body could demand an internship, and might conceivably be required to do so if such were demanded by any provincial licensing body, the internship is not required at the present time.

The licensing bodies in the United States have made considerable progress in demanding the internship. It is now required by the National Board of Medical Examiners, which body corresponds to our Medical Council of Canada and whose diploma is recognized by forty-three States in the union. In addition, nineteen individual States require the internship, and the number is steadily increasing. In fifteen medical schools in the United States, the internship year must be completed before the diploma is awarded.

If such training should be required in the near future by our Canadian licensing bodies, our hospitals would be well equipped to meet the situation. Since the approval of hospitals for internship was undertaken by the Canadian Medical Association five years ago, considerable reorganization of internship services has taken place, and the

number of hospitals approved for internship has steadily risen. At the present time there are some 41 hospitals on the approved list, providing approximately 646 internships. In addition, there are 15 hospitals now on the "recommended list," providing 50 additional internships. As the number of students graduated from the medical schools of Canada for the last few years has not exceeded 500 per annum, it is obvious that there are ample facilities for all, even though many interns remain for a second year; many graduates also go to Great Britain or the continent for post-graduate work and others accept appointments in hospitals in the United States.

Should the internship become an obligatory one, it is obvious that the licensing bodies would demand that the internships be in hospitals meeting certain standards. It

might be assumed that the basis of approval adopted by the Canadian Medical Association in conjunction with the Canadian medical colleges would be an acceptable basis; the Canadian list has been for some time accepted as providing a credit for internship by the National Board of Medical Examiners in the United States. On the other hand, various provincial licensing bodies may accept less exacting requirements in order to encourage the taking of internships in their own provinces. Hospitals providing accredited internships might be required also to furnish to licensing bodies reports on the work of the interns and analyses of their activities during such period. Needless to say, there are in Canada an increasing number of excellent institutions capable of meeting the highest standards of intern requirements.

### **"Can Student Nurses Take It?"**

With regard to the editorial which appeared in the June issue of "Canadian Hospital" under the above title, we give herewith the observations of a hospital superintendent.

Schools are admitting to their Schools of Nursing young women of 18 and 19 years of age; youth is an important factor in causing illness and, on this account, they should have better working and living conditions. The pupil nurse of 25 or 30 years ago had greater stamina than the pupil nurse of to-day, due, no doubt, to the fact that, on admission to the school, she was more mature, averaging about twenty-five years. Certain schools or hospitals formerly had a rule that a probationer must be

twenty-one years of age, and they should have and enforce that rule to-day. The difficulty is that the average girl is looking for a job when she leaves the secondary school and, if the hospitals do not accept these applicants at that age, the chances are that they will drift into other vocations, but there is need for collective action to advance the age of admission.

Apart from the question of physical stamina and illness, the pupil of to-day, even with a better preliminary education than her sister of yesterday, is not mature enough to have the judgment required in handling problems which frequently arise during the course of training. Hospital administrators and superintendents of nurses have a great deal of worry because of this lack of mature judgment.



*A corner of the new Children's Ward in the Saskatoon City Hospital. This ward at the present time has a capacity of 20 beds which are completely cubicized, each cubicle having washable blinds around the windows which when pulled down make a miniature private ward. The appointments are such that a careful technique can be observed and a semi-air-conditioned atmosphere prevails.*



# Obiter Dictum

## Conventions

**D**URING the next few months many hospital administrators and trustees will be making plans for their annual trip to attend hospital conventions. Some will confine themselves to the more conservative attendance at their provincial meeting, while the plans of others will include national or even international meetings; and because of the benefits these executives will receive we feel that it is very timely to remind the whole field of the value of our numerous annual meetings. Convention leaders notice with some regret that the groups attending their meetings are almost the same each year, however, they are encouraged by the few new faces that appear to hope that eventually everyone in the hospital field will find it possible to attend one meeting at least.

The executive who hasn't time to attend a convention or who does not think the benefits will warrant the expenditure is out-of-date and non-progressive; the trustees who feel that the cost involved in sending representatives from their institution cannot be justified are wrong. Even the more distant of the annual conventions may be attended at relatively low cost if a little time is given to economic planning. These meetings are held usually in the summer or fall of the year, and with our improved roads and tourist camps, two or more executives might join together and have a great time travelling by automobile to their destination. If the costs are pooled it is surprising how low the individual share turns out to be, not only that but the trip might constitute a most enjoyable vacation and it may be the starting of a friendship and understanding between the trustees and executives that would not become evident under other conditions.

How many administrators realize that throughout the year they are battling with problems which they have to keep pent up within themselves largely because they have no other person to discuss them with who will really understand? Such an administrator going to one of our larger conventions immediately is thrown into an atmosphere where everyone talks his language and almost without exception the problems that he has felt were capable of almost getting him down disappear like magic in the comradeship of his associates. Then there is the administrator who stays home, setting his own standards, and who becomes self-satisfied as to the work done by his institution. If he would only make an effort and attend the conventions he would find out that the standards of service change each year and that in all probability he is several years behind time. To the administrator who refrains from asking his governing body to send him or her to conventions, we suggest that at any one of our larger conventions he would positively learn something which would definitely save in actual dollars and cents sums of money far in excess of the convention expenses,

as well as broadening his outlook so that he would be a better administrator. Put the whole matter before the trustees, tell them what other hospitals do, ask them to send you just once as a trial and, if possible, send one of the trustees with you. We feel sure that if you would make this one effort you would be sufficiently convinced of the value of the experiment that it would become an annual occurrence.

A day among the exhibits will invariably give you ideas leading to further economies or acquaint you with additional services that would popularize your hospital and in many instances be remunerative; at the round table conference you will learn how similar your associates' problems are and how the individuals combat them. Such meetings will so increase your confidence in yourself and in hospital progress that in many instances the spirit of the meeting will subconsciously guide and uphold you until the next meeting comes along. In the interest of our hospitals let every hospital executive and as many trustees as possible plan a convention program for 1936 and thereafter provide for it in their budget.



## The Clinical Record

**T**HE clinical record has long been one of the administrator's problems in that it is a document of which he must be the guardian and also to a great extent be responsible for obtaining, yet it is something that is out of his power to create because a record can only be made by the attending physician after a careful examination and study of his patient. Because of three participating bodies, the patient, the doctor, and the institution, it is vital in the production of efficient clinical records that the closest co-operation is existent between the doctor and the hospital. We have long recognized the importance of the record as a protection to the patient to be always available throughout the lifetime of the patient and its value as an educational and statistical document, yet despite the undenied value of the record we all too often hear of hospitals that find it almost impossible to produce such records. Very often the argument is put forward that attending doctors are too busy to prepare the record and tend to shun this obligation that they assumed when accepting membership upon the staff of the institution.

Because this condition exists, The Canadian Hospital proposes to publish articles and discussions pertinent to the problem of clinical recording and it is hoped that administrators who find the procuring of good clinical records a problem will participate in the discussions on this subject. This month we commend for your earnest attention the article, "The Clinical Record," A Criterion of the

Surgeon's Efficiency, read by Dr. Arthur Steindler before the Sectional Meeting of the American College of Surgeons held at Omaha last March. We are indebted to the College and Dr. Steindler for permitting us to make this reprint for our readers.



### Wrong Impressions

**T**REMENDOUS interest has been created throughout Canada by the "Dominion Drama Festival" held in Ottawa each spring, and at which amateur groups from all over Canada compete for the coveted awards. The hospitals will note with interest the comment of the adjudicator, Mr. Granville-Barker, that the episode depicted in one play was an "unfair attack" upon hospitals. In this particular play a charity patient in a hospital loses his life, because an operation on him is taken from an intern and entrusted to an incompetent surgeon with influence among the wealthy patrons of the hospital. The adjudicator doubted if the author would confirm that it was either fair or accurate.

We are pleased to note that the Ottawa Evening Journal, realizing that many Ottawa citizens would have seen the play presented and might have gained an erroneous impression of hospital practice, pointed out that such an episode, as was depicted in the play, would be quite impossible in the Ottawa hospitals. The editorial then went on to quote extensively from the bylaws of the Ottawa Civic Hospital, showing how patients in its public wards

are protected and given—without charge it was emphasized—the services of the most experienced surgeons and physicians in the city. The extracts quoted showed the responsibility placed upon the senior in each department for the efficiency of the work in that division, the requirements for consultation, the giving of opinions in writing, the insistence upon a written consent before operation and the necessity of a consultation on every patient remaining in the hospital for thirty days, with subsequent consultations every three weeks during the hospital sojourn. The careful appointment of the staff members was emphasized.

These bylaws might have been selected at random from those of almost any public hospital in the country. Hospitals, like many other worthy institutions and groups, have had to suffer because of the indifference of consequences on the part of so many who do not heed the possible results of their actions. It is comparatively easy to dramatize hospital life and, in the past few years, movies have been produced and books have been written purporting to portray hospital life, but which tend to give a totally distorted view of the attitude towards their work and towards each other of the nurses, interns and others involved in caring for the sick. Unfortunately, the opinions of the great mass of the public are formed upon the most casual and very superficial impressions and, in the case of a best-seller or a popular movie, the erroneous impressions created may have a widespread effect. We congratulate Mr. Granville-Barker on pointing out the unfairness of the lines. Our criticism of the episode depicted in no way reflects upon the ability or sincerity of the actors presenting the play.



### Explanation

We have had sufficient requests for an interpretation of the picture dedicated to our 1936 Graduands in the May

issue to justify an analysis of its composition. In the top left hand corner Frederike Munster Flidner is portrayed as representing the first organized School of Nursing where any pretense of following a School curriculum was evident. It is noted that Flidner's curriculum contained administrative orders, rules and lecture outlines and so we portray her as emblematic of the creation of our School. In the upper right hand corner we portray Jeanne Mance to signify the birth of Canadian nursing although in 1639, two years previous to Jeanne Mance's arrival in Quebec, three nursing sisters arrived and performed heroic nursing service. Jeanne Mance, supported by powerful financial aid founded and developed the Hotel Dieu and can sincerely be called our first Canadian nurse. In the lower left hand corner we portray Mary Agnes Snively, a Canadian in the truest sense of the word. She was chosen as emblematic of the forming of the Canadian Nurses' Association and later was the cause of the affiliation of this Association with the International Council of Nurses. In the lower right hand corner we have Miss Ruby Simpson, the present President of the Canadian Nurses' Association. Florence Nightingale as the patron of the nursing profession is portrayed in the centre of the group. At the bottom of the light beam we see the average young graduate stepping out from her school, which is shown by a series of small pictures representing various stages in her training, to enter the nursing profession, looking towards her patron and the leaders we have portrayed for inspiration and guidance with perhaps the thought in her mind of the solemn pledge she has recently made.

The CANADIAN HOSPITAL

# INTRAVENOUS SOLUTIONS

S. T. MARTIN, M.A.C.H.A.,

Montreal

WITH the tremendous importance assumed by intravenous therapy in the past few years, most hospitals have had to supply, and in many cases prepare, large quantities of glucose or saline solutions as part of their daily routine.

Along with the greater use of this form of therapy, physicians have noticed the occurrence of systemic reactions with varying degrees of frequency, following shortly after the injections. The reaction consists typically of chills, raise in temperature, rapid pulse, vomiting and sometimes general collapse. The value of this form of therapy has frequently been impaired by the occurrence of these reactions, particularly since they usually occur in those patients already critically ill.

In the following paragraphs an attempt will be made to make a concise summary or resumé of the most pertinent facts gleaned from a review of a number of articles in current hospital and nursing literature.

The administration of food, water and the necessary salts by mouth is sufficient under conditions approximating normal, but with certain symptoms presented this route is unsatisfactory, either because the stomach and intestines will not absorb an adequate amount of nutrition, or because physiological rest of these organs is indicated. Because fluid introduced directly into the circulation is the surest and most rapid method for obtaining the desired biological effect, it is therefore the channel most commonly chosen when it is necessary to augment the volume of the circulating fluid in cases of severe hemorrhage, or in combating shock or acidosis. The intravenous route also seems to be the most advantageous for the continuous administration of quantity fluids.

To these intravenous administrations many benefits have been attributed, the principal ones being, that they,—

1. Increase the volume of circulating fluids that may be deficient as a result of hemorrhage, vomiting, diarrhoea or dehydration.
2. By filling depleted blood vessels, helps to maintain blood pressure.
3. Combats acidosis and shock.
4. Dilute circulating toxins, and hasten their removal by its diuretic action.
5. Satisfy both thirst and hunger, while allowing rest of the alimentary canal.
6. Protect the liver function by contributing to glycogen storage.

It is apparent then that any substance capable of exerting such profound influence in such diverse directions as has Dextrose will have a wide range of therapeutic usefulness. To mention only a few typical uses. Its administration in the important toxemias of Pregnancy, Hyperemesis Gravidarum (vomiting of pregnancy) and Eclampsia, has attained importance as a rational treatment. Alimentary Toxicosis of babies is another condition in which these solutions are being successfully used,

since these conditions are usually characterized by diarrhoea, vomiting and marked dehydration.

The tremendous importance assumed by this form of therapy makes it imperative that easy and safe administration be assured. In the earlier administrations of glucose solutions, little if any regard was given to the quality of either the distilled water or the other ingredients of the solutions used, but with the popularization in its use there has been considerable speculation as to the causes of the reactions and the procedures to adopt to avoid them. It is readily apparent that any material injected directly into the circulation should be prepared with the utmost caution. Every known means of eliminating the reactions should be provided, qualified personnel, suitable facilities such as dust proof laboratories equipped with essential sterilizers and other apparatus, biological checks with a proper technique adopted and adhered to.

Most of the writings reviewed have quoted liberally from the very excellent studies conducted by Lee Radamaker, Paul Titus, Rudolph Matus, Florence Seibert on intravenous medication, and the reactions sometimes following its administration, who though working independently of each other, their findings are generally in agreement.

With these facilities provided, the following possible factors in the cause of reactions should be carefully considered. The quality of the distilled water; the purity of the Dextrose and the Sodium Chloride; the hydrogenion concentration of the solution; the quality of the rubber tubing; the quality of the glassware; the bulk and temperature of the solution; the speed of the injection; the patient's susceptibility, and lastly the disease itself. The latter two possible factors being such that they cannot be foretold are then, more or less, causes that cannot be controlled.

As to the speed of the injection, the bulk and temperature of the solution, these are factors determined by the clinician who is ordering the solution, but since they have been questioned we will review them briefly. One must bear in mind when discussing the question of the speed of the injection that the purpose is for which the phlebotomy is being given. If there has been a sudden and large depletion of body fluids as in severe hemorrhage, it would seem that their quick replacement can hardly do harm, but if on the other hand the object is to secure absorption of as much Dextrose as possible, excessive speed has little advantage in view of the findings of Wilder and Sansum, who show that Dextrose can only be utilized at the rate of 0.8 gm. per kilo of body weight per hour. Calculating from the rate established by Wilder and Sansum, a 10% solution of Dextrose may be given as rapidly as 500 cc. per hour to a person of average weight.

In some instances in administering these intravenous solutions, these known physiological facts regarding the rate at which the body is able to take up and utilize the



glucose are almost totally disregarded, with the result that with the uncertain dosage large amounts of the Dextrose being wasted by being quickly eliminated through the kidneys.

As to the "bulk" of the solution, one investigator acknowledges its possibilities, believes it exists, but that it is not dangerous, and in any case it may be eliminated by intermittent infusion or the injection of the fluid at a slow rate.

The temperature of the solution is a question that appears to be controversial, although the general opinion is that the temperature may vary within wide range without causing reaction. Radamaker states, "that non-pyrogenic solutions may be given at from 20 to 44 degrees C. without reaction, but that pyrogenic solutions given at body temperature will bring about a reaction. Cool fluid in patients with high temperature will cause a drop in the temperature without reaction. Matas does not believe temperature affects reaction one way or the other. He gives his solutions at room temperature if the patient has high temperature, and at 100 to 104 degrees F. if the patient has a low temperature. It would seem that only reasonably close figures to body temperature are necessary in any case.

#### Sources of Water Supply

The study of the quality of distilled water seems not only to have received more attention than the other factors under consideration, but more definite findings have been arrived at. The most exacting standard of the quality for distilled water in modern hospital practise is that it must be suitable for intravenous use. The original source of the water is important to H. M. Banks, who in making an extensive study of this question, found that practically all open bodies of water used as a source of supply for our drinking water contain pyrogen material periodically through the year, and that these substances were the cause of the reactions. He did not find these materials in deep artesian water.

In an excellent article on the preparation of distilled water, Marian Stark quotes Florence Seibert as having conclusively demonstrated that the material predominantly responsible for febrile reactions following intravenous injections, is a product of contamination of the water by certain strains of bacteria, (not the bacteria themselves, but a substance which they produce). This develops as the contaminated water is allowed to stand, and to be avoided the water must be promptly sterilized. After the pyrogenic material is once present, however, autoclaving is of no value as this material is highly resistant to heat. Small amounts suffice to produce severe reactions. Either the bacteria themselves or their toxic products can be carried over in the distilling process by entrainment with the steam, although an efficient system of baffles in the still combats this.

The quality of the distillate is considerably influenced by the efficiency of the still itself. A number of writers have devoted considerable study to the apparatus itself. While it is true some have insisted that nothing less than triple distillation is suitable for intravenous use, on the other hand a great number are of the opinion that the use of multiple distillation is an admission that the process itself is not perfect, and that single distillation in safe

hands with an apparatus designed to prevent the carrying over of suspended particles is sufficient. The most important facts brought out is the necessity of the still being amply baffled and constructed so that its evaporating pans and coils are readily accessible for cleansing. Chemical analysis of the water, granted a reasonable purity of the distilled water, gives relatively little direct information as to the suitability of any particular sample for intravenous use, for the reason that the chemical analysis gives no information as to whether pyrogens are suspended in the water. The essential feature to be stressed again is the necessity of baffled or water trapped distillation to prevent the mechanical carrying over of the toxins, and the immediate sterilization and sealing of the solutions to prevent the growth of bacteria.

Among other factors suggested as causes for reaction is the hydrogenion concentration of the solution which holds a prominent place. Radamaker in his interesting work on pyrogenic substance states, "that saline solutions with a hydrogenion concentration greater than pH 7.05 are apt to contain reaction inducing pyrogens. Another writer in relating the technique arrived at to prevent reactions occurring states:—"We have avoided both changes in pH concentration as well as secondary bacterial contamination by sterilizing our freshly prepared distilled water, usually within a half hour of its preparation, using single distillation, made into glucose or saline solution, sterilized at once and never used after twenty-four hours." The pH distilled water changes rapidly unless protected by high vacuum. At this point the footnote below the instructions for the preparation of Normal Saline Solution in the XI edition of the U.S.P. is worthy of note. "This solution must be protected from contamination, and should be used within twenty-four hours after its sterilization, if not stored in hermetically sealed containers."

Many hospitals are employing the same flasks in which the solution is sterilized as a reservoir from which it is administered, thus avoiding another source of contamination possible in the transfer of the solution from one container to another.

#### Handling of Glassware

Before being used either for the storage or in the preparation of Parenteral fluids, the bottles, graduates and other glassware used should be specially prepared. The glassware should be, if at all possible, "hard glass" free from soluble alkali. It should be thoroughly washed, using a brush with a green soap solution or a solution of trisodium phosphate, well rinsed, then flushed with a weak acetic or hydrochloric acid solution to neutralize any remaining soap or alkali, then finally rinsed, at least three times, with freshly prepared distilled water.

The sterilizing of intravenous solutions is important. The flasks should not be filled more than two-thirds full as it is shown that a loss of about 5% is unavoidable. To keep the concentration fairly exact it is suggested that it is advisable to add about 5% freshly distilled water to the mixture before sterilizing to compensate for this evaporation that occurs even in the most carefully conducted cooling process.

In sterilizing solutions there is no ebullition of the liquid while it is being heated or during the sterilizing process because the liquid is under pressure of the sur-

rounding steam, which is a pressure greater than the tendency of the solution to vaporize. At the close of the sterilizing period, when the pressure is exhausted, the stored up heat of the solution unavoidably causes vaporization in its effort to cool down at the same rate as the temperature of the exhausting steam in the sterilizer. This causes a violent movement of the liquid, and if the rate of the steam exhaustion is rapid part of the solution will boil over. If the sterilizer is permitted to exhaust its steam slowly little harm will result. The best method is to allow both the sterilizer and the solution to cool down together by simply leaving the valves controlling the steam to the chamber just as they were during sterilization, but turn off the heat control, until atmospheric pressure is shown on the chamber gauge.

Some attention has been given to the possibility of reactions occurring through the rubber tubing used. Only the best of pure gum rubber tubing should be used. No rubber can stand repeated sterilizing indefinitely, and at the first sign of disintegration it should be replaced. Before putting into use, new tubing should be prepared as follows to insure against temperature reactions of a chemical nature. Thoroughly wash tubing inside and out to remove the excess sulphur or soluble rubber accelerator. Place in a deep dish covered with freshly distilled water, adding 50 grams of sodium carbonate to each liter of water, and place the dish in sterilizer at 250 degrees F. for 30 minutes. The tubing should then be thoroughly cleansed with distilled water, or with a jet of live steam before its final sterilization.

Of course, used tubing must be thoroughly cleansed and sterilized immediately following its use, or else there is a very good likelihood of reactions occurring from the growth of organisms in the glucose residue and blood which may have entered the tubing and dried.

From the foregoing it will be seen that the preparation of these commonly used solutions demands a very exacting technique, but unfortunately these conditions and demands are at present inadequately met in relatively few hospitals, and their preparation should only be undertaken in those hospitals having well-equipped laboratories and pharmacies.

One well-known hospital administrator speaking of the use of "prepared solutions" in his hospital stated,—“Originally, of course, we made our own solutions and they were satisfactory in almost every respect. However, there was always the haunting fear of carelessness, improper distilled water, or accidental substitution. We did welcome the idea of a ready to use product, if for no other reason than the product would be subjected to more exhaustive tests routinely in its preparation than is possible to include in ordinary hospital preparation.”

#### Bibliography

- J. Felsen, M.B., Bulletin American Hospital Assoc., April, 1935.  
A. E. Paul, Modern Hospital, January, 1935.  
Sister Mary Marrow, Hospital Progress, April, 1935.  
A. H. Perkin, Modern Hospital, February, 1932.  
H. Johnson and W. P. Stowe, Modern Hospital, August, 1934.  
Edith Squires, American Journal of Nursing, December, 1932.  
Marian Stark, Modern Hospital, September, 1934.  
W. B. Underwood, Text Book of Sterilization, 1934.

Do each of your Trustees receive a copy of THE CANADIAN HOSPITAL? If not, get them to subscribe, for they will learn more about your problems and thereby help you.

PLEASE FILL IN WITH BLOCK LETTERS

NAME .....

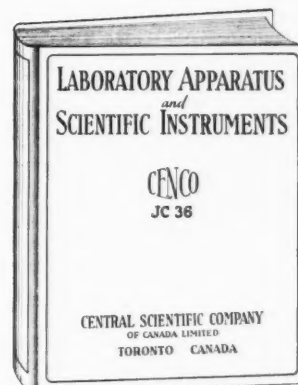
OFFICIAL POSITION .....

DEPARTMENT .....

INSTITUTION .....

P.O. .... PROVINCE .....

ONE  
THOUSAND  
PAGES  
OF  
SCIENTIFIC  
DATA  
FREE  
FOR



### THE PATHOLOGICAL, BACTERIOLOGICAL AND CLINICAL LABORATORY

#### ILLUSTRATING AND DESCRIBING

BALANCES and WEIGHTS	AUTOCLAVES
CHEMICAL APPARATUS	STERILIZERS
COLORIMETERS	INCUBATORS

BLOOD TESTING APPARATUS  
ORGANIC AND INORGANIC CHEMICALS

INDICATORS  
MICROSCOPICAL STAINS

CULTURE MEDIA  
SEROLOGICAL REAGENTS  
MICROSCOPES MICROTOMES  
ETC., ETC.

Tear off coupon at top of page, fill in,  
mail today. Your copy will  
arrive promptly.

CENTRAL SCIENTIFIC COMPANY OF CANADA, LIMITED  
LABORATORY SUPPLIES  
Apparatus and Chemicals  
119 YORK ST. TORONTO 2 ONTARIO  
PACIFIC COAST OFFICE 1830 W. GEORGIA ST. VANCOUVER B.C.



# Should Anaesthetic Apparatus Be Grounded?

**I**T would appear that the procedure followed in various Canadian hospitals with respect to grounding of anaesthetic apparatus varies very widely. Recently the Canadian Hospital Council had occasion to enquire from a number of leading hospitals concerning their routine procedure.

The majority of the hospitals consulted do not ground their apparatus. One or two do ground the equipment at intervals, but have no definite routine. One large teaching hospital in Western Canada does ground its equipment by the use of hanging chains and a grounded terrazzo floor, and there is a somewhat similar order in a large Maritime hospital. The western hospital, located where there is a great deal of static, recommends that hospitals "ground everything." It was added, moreover, that "grounding improperly done gives a false sense of security and probably increases the hazard." One Pacific Coast hospital replied that one reason for not grounding was that in humid coastal regions static electricity is practically negligible. Certain anaesthetists are of the opinion that, with the closed carbon-dioxide technique, the chance of explosion from static spark is greatly minimized. In one large hospital there are no rules about the grounding of gas machines, but the anaesthetists ground them in cold weather and when using cyclopropane or gas and oxygen with ether.

A number of the hospitals place considerable reliance upon humidity. To what extent this humidity should be maintained, does not seem to have been determined. One hospital has been relying upon a humidity of 45 or over. However, in this hospital an explosion did occur in the mixing chamber with a humidity of 45, with no lights on, no electrical equipment in use, and a minimum of movement before the anaesthetic. The Anaesthesia Department of a large eastern hospital recommends a humidity of over 50% R.H. Professor Ralph Waters of Wisconsin General Hospital, a well-known authority on this subject, stated in a recent paper that "Operating rooms with a relative humidity exceeding 60% are probably safe from the static hazard."

## To Ground or Not to Ground

The problem of "to ground or not to ground" is complicated by the observation that explosions do seem to occur where most careful precautions have been taken, and do not occur in so many instances where practically no precautions have been taken. If the generation of electricity and the explosion of gases follow constant physical laws, have we misinterpreted our known knowledge, or are there physical laws which have not been properly understood? Dr. Waters points out the value of a complete metal connection of all objects in the operating room in order to equalize potential, but adds that the complete accomplishment of this is very expensive and difficult to carry out.

"Attempts to ground certain objects, such as the anaesthetic machine, in the presence of failure to ground other objects, such as patients wheeled in on a rubber tired cart, add to the likelihood of differences in electrical po-

tential. It is therefore recommended that no attempt to ground any object in the operating room be made (grounding may actually increase the hazard of leaks from insufficiently insulated electric equipment used by the surgeon). I believe it to be much safer to avoid attempts at metal connections, ground wires in rubber tubing, metal contacts of machines with the patient's face, and efforts of this sort. . . . The thoughtful anaesthetist, for example, will not fail to touch both the anaesthetic apparatus and his patient before actually placing a mask in contact with the face. Such contact is made quite without effort as a rule in the usual routine of taking the pre-anaesthetic readings of pulse and blood pressure."

The difference between a procedure which might be considered ideal and the likelihood of putting it into practical operation would probably explain the variations in the recommendations of two national organizations made a few years ago, when this subject was very much to the fore. The National Board of Fire Underwriters (New York City) in its booklet "Fire Prevention and Protection as Applied to Hospitals," 1929, (page 24), while recommending humidification as the most effective safeguard, states also that "The danger can also be controlled by continuously bonding together the patient, table on which he lies, the surgeon performing the operation, anaesthetist and anaesthetic machine and thoroughly grounding to the floor, which in turn should be well grounded to the water system or to outside permanent moisture or equivalent." The American Medical Association in its report in 1930 on anaesthesia accidents doubted whether grounding could give more than an incomplete protection "for the most serious explosions are probably initiated by electrical discharges of static electricity developed inside the anaesthetic apparatus itself. Grounding considerably increases the danger of a short circuit from the electrical eliminating current to the patient, surgeon and anaesthetist."

An excellent article on "Safeguarding the Operating Room Against Explosions" appeared in the "Modern Hospital" for April of this year, and in this article Mr. Victor B. Phillips of the University Hospitals, Cleveland, stated that "The present evidence on the whole is against the grounding method, whether or not operating atmosphere is adequately humidified, but it must be made clear that, in the absence of proper room humidity, the lack of grounding leaves no protection against static developed outside of the anaesthetic machine. It means acceptance of one hazard as being on the whole a lesser evil than the other hazards which grounding induces."

## Other Precautions

Other precautions were suggested in the replies received. In one hospital all of the staff entering the operating room must wear leather-soled shoes; rubber-soled shoes are not permitted. All electrical connections should be carefully checked, and any switch or adjustable transformer or other connection likely to produce sparking should be replaced. Insulation should be carefully checked for the danger of short-circuiting is very serious, particularly, if it be with grounded objects. In one hos-

pital the last thing done in the operating room at night is to inspect the anaesthetic machine and remove the plug from the wall. This plug is not replaced until just before use, as the hospital has had one or two small fires, caused by the plug being left in the wall even although the machine was turned off. This hospital has been advised that a certain amount of current passes through the cable even when the machine is turned off. The desirability of minimizing movement around the patient prior to the anaesthetic and the desirability also of discharging any static picked up by individuals before entering the operating room were emphasized. This last could be accomplished by touching some grounded object at the operating room entrance.—G. H. A.

## Ontario Society of Radiological Technicians Holds First Annual Convention

PERCY GHENT, M.R.T.,  
Toronto

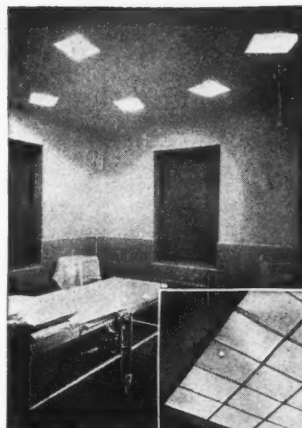
Gratifying success rewarded the efforts of the executive officers of the Ontario Society of Radiological Technicians in staging the first annual meeting and convention of their infant society. Held at the King Edward hotel, Toronto, on the 22nd and 23rd of May last, the attendance exceeded the brightest hopes; the commercial exhibits of apparatus were both attractive and full of interest; and the educational and social phases of the meeting thoroughly appreciated. Addresses by the Hon. Dr. J. A. Faulkner, Dr. G. E. Richards, Dr. W. A. Jones, Dr. W. K. Colbeck, and others, all stressed the uttermost goodwill of the medical profession toward the laymen and laywomen whose technical work is so intimately associated with modern medical practice; and sincere good wishes were expressed for the growth and development of radiography along sane and ethical lines.

A crowded programme included papers on pyelography by W. S. Page, on the technical staff of the X-ray department, Toronto General Hospital; on the technical side of X-ray therapy, by Arthur Jeans, of the same institution; on the value of immobilization by M. J. Francis, of St. Michael's Hospital, Toronto; and an interesting talk on the value of photography as an accessory to radiology, by C. H. Stewart, of Orillia. J. H. Moss, of Brantford, described a method of reproducing X-ray films giving a stereoscopic effect by a single picture. Radiography of the chest, with especial reference to silicosis, was the subject of a paper by J. Greaves, of Timmins.

Officers appointed for the ensuing year were: J. H. Coones, of Peterboro, re-elected president; Dr. W. K. Colbeck, Welland, honorary president; F. G. Reason, Toronto, vice-president; R. H. Bradley, Toronto, secretary-treasurer; Dr. W. A. Jones, Kingston, Mrs. M. Cameron, Hamilton, and J. H. Moss, Brantford, additional members of the executive.

When you have a suggestion that may help your fellow-workers do not file it in your memory, but write it down and mail it to the Editor of THE CANADIAN HOSPITAL.

JULY, 1936



**DELIVERY ROOM.**—This installation comprises 5 Holophane lens boxes set flush with the ceiling and each fitted with 150-watt lamp. The light is directed to suit the specific requirements of this room.



**MAIN OPERATING ROOM.**—Installation consists of a Holophane lens system set flush with the ceiling and equipped with 21 150-watt lamps. Lamps are so wired that light can be obtained dominantly from the side or from either end as required.

# LIGHTING for Hospitals

Dependable, scientifically-arranged lighting is a necessity in the modern hospital. The new Halifax Infirmary is an outstanding example of how electricity has been made to serve humanity, and Northern Electric is proud of its part in this instance. Northern Electric engineers are familiar with the illumination problems confronting hospital authorities. They will gladly co-operate with you in overcoming your difficulties.

19 branches from coast to coast.

**Northern**  **Electric**  
COMPANY LIMITED  
A NATIONAL ELECTRICAL SERVICE

21-22R

# HOSPITAL STATISTICS

## Comments on Their Development in Canada and the Problems of Collection and Interpretation

### Foreword

**F**OLLOWING approval by the Canadian Hospital Council, working in conjunction with the Dominion Bureau of Statistics, supported by the Ministers of the Provincial Public Health Departments throughout the Dominion it is felt that hospitals should acquaint themselves without delay on the nature of statistical returns that will most probably be inaugurated in the near future. This article will convey the spirit of the move and show the value of the work done. It is hoped to publish subsequent articles giving details of the actual methods of making the returns and so enable the administrator to accumulate information from his hospital activity in such a way that the completion of the actual forms will not be an undue burden upon him. Following the reading of this report it is suggested that the small book entitled "Hospital Accounting and Statistics," published by the American Hospital Association be read, thus gaining an insight into the methods used in the United States and upon which our own report follows very closely. At the time of the Conference the Dominion Bureau of Statistics signified its willingness to aid in every way possible towards educating the hospitals in the matter of compiling the returns and now that the "Canadian Hospital" has become the official Journal of the Canadian Hospital Council it seems that we have an ideal medium of presenting this important phase of administration to the institutions.

### Statistics

Historically, hospital statistics have been gathered and published by various provincial governments as far back as 1869, but it was not until 1931 that an effort was made to collect and publish a body of uniform data on hospitals, for the whole of Canada. In that year, the Dominion Bureau of Statistics, in conjunction with the various provincial health authorities, drew up a series of schedules for the collection and compilation of hospital data. The original schedules used in the 1931 census have been under steady revision since that period and, although not yet satisfactory, are producing excellent results both in the accuracy and quality of the data being supplied. General information covering every type of hospital operating in Canada is now being collected and very complete data covering all classes of public hospitals, bed capacities, services, schools of nursing, special departments and staff, together with information covering the movement of patient population, is now being compiled and

published annually by the Dominion Bureau of Statistics.

An analysis of the public hospitals in Canada reveal marked differences in size, services rendered, staffs employed, administrative practice and methods of keeping records and the class of records considered necessary to be kept.

A study of the 606 public hospitals operating in Canada in 1934 revealed the following situation:

Bed Groups	Number of beds in group	Number hospitals in group	% of total bed capacity	% of total hospitals
1 - 10 Beds	372	52	0.7	8.6
11 - 20 "	1,603	107	3.0	17.7
21 - 50 "	6,987	203	13.0	33.5
51 - 100 "	8,238	112	15.4	18.5
101 - 200 "	8,720	63	16.3	10.4
201 - 400 "	12,189	43	22.8	7.1
401 - 600 "	7,659	16	14.3	2.6
600 Beds and over	7,776	10	14.5	1.6
TOTAL	53,544	606	100.0	100.0

With such a divergency in the size of public hospitals in almost every province in Canada, it becomes fairly evident that the statistical records of these institutions must vary considerably. In the smaller hospitals in which, as a rule, the superintendent is not only in charge of the administration of the hospital but also of the daily records, it is not to be expected that the data collected in these hospitals be as complete as those collected in hospitals of 100 beds and over. Moreover, it has been found that the data considered necessary to be recorded by public hospitals in the several provinces differ both as to character and quantity. Data which public hospitals of one province can readily supply cannot be supplied by hospitals of another province. Even when similar data are supplied by hospitals in each province it does not follow that figures have the same content, as definitions of hospital facilities, due to lack of standardization, are different as between province and province, and in many cases divergencies in the method of recording similar data exist within the same province, so that dependable comparisons, except within limited fields, cannot yet be made. Facts such as outlined lead to the logical conclusion that there exists a pressing need for a uniform system of recording hospital data in all public hospitals and standard or official definitions of all hospital terms.

### Need of Standard Definitions

The need for standard definitions for hospital facilities is evidenced by the divergencies in the bed capacities supplied by individual hospitals from year to year. Different bed capacities are, in many cases, supplied to the provincial authorities and to the Dominion Bureau of Statistics by the same hospital, hence confusion has arisen between provincial figures and the Dominion figures on bed

Extracts from the Interim Report of the Committee on Accounting, Statistics and Records presented at the Canadian Hospital Council Meeting in Ottawa on October 8-10, 1935, and approved by the Council.



capacities. The difference between official bed capacity and the bed complement have not been clearly understood, thereby making calculations for the percentage of bed occupancy of doubtful value. If all hospitals follow the recommendations of this committee in adopting standard definitions covering hospital facilities, patient days, etc., all confusion will disappear.

#### Study of Provincial Annual Returns

During the past two years, the Dominion Bureau of Statistics made a special study of the annual hospital returns required from public hospitals by the various provincial governments so that by a study of these returns they might be able to draw up schedules to meet the requirements both of the provinces and the Bureau. From this study it became evident that the data collected in the various provinces could be divided into two classes, viz: (a) general data covering forms of administration, movement of population and finances; (b) medical data such as number and nature of surgical operations, number and types of communicable diseases treated, obstetrical cases, deaths by causes, anaesthetics given, autopsies held and many other questions of a purely medical nature. Moreover, the American College of Surgeons and The Canadian Medical Association require a body of data from approved hospitals and those having interns.

The conclusion arrived at was that comparable statistics could not, generally speaking, be secured from these returns as they stood, and that a composite set of schedules on which all important data could be collected and presented on a uniform basis be prepared and submitted to the provincial authorities for their criticisms and suggestions. These schedules then, it was hoped, would be accepted by each of the provinces as constituting a minimum of statistics to be collected by each province for general purposes, while each province collected for itself such additional data as its health authorities desired.

#### Conference Held in Ottawa

This study being completed, a joint conference was held in Ottawa in February, 1934, to determine if the composite forms drawn up would meet the main requirements of the provinces. Representatives of the Ontario Government, Canadian Hospital Council, Ontario Hospital Association, Department of Pensions and National Health and the Dominion Bureau of Statistics participated in the conference.

The schedules drawn up were subjected, question by question, to the strictest scrutiny and after revision were accepted by the Ontario health authorities. It was suggested by the conference members that these revised schedules should form the basis of obtaining uniform statistics for all hospitals in Canada and that these forms be submitted at a later date for suggestions and improvements to the Canadian Hospital Council and when,

(Continued on page 22)

## RELIABLE PRODUCTS

### HIGH GRADE CLEANSERS

Order these detergents—they save time and money—do a better job.



**Liquid Toilet Soap**  
Transparent or Green . . . Scented or Unscented.



**Pinole Antiseptic Scrub Soap**  
An exceptionally effective neutral soap.



**Kleenup Soap**  
For Porcelain, Tile, Glass, Enamel surfaces and all floors.



**Dry Cleaner**  
Ideal for Hardwood Floors.



**CHAD**  
For really cleaning Rubber Floors.



**Linseed Soft Soap**



**Dishwashing Powder**



**Detergents (Powder)**



DUSTBANE PRODUCTS LTD. - St. John - Montreal  
Ottawa - Toronto - Winnipeg - Vancouver

## G & W

### PHARMACEUTICAL ALCOHOLS

HIGHEST QUALITY—BEST SERVICE

Whatever your requirements may be for Industrial, Pharmaceutical or Rubbing Alcohol, we can supply the type you need.

**GOODERHAM & WORTS, LIMITED**  
INDUSTRIAL ALCOHOL DIVISION

2 Trinity Street, Toronto, Canada. Telephone: EL. 1105

### Sydenham Hospital Courses of Instruction for Technicians

#### X-Ray (Radiology)

Three months instruction in X-ray technique, including X-ray therapy service.

#### Laboratory

Eight or six months course in laboratory technique.

#### Electrocardiography

One month instruction in electro-cardiography.

#### Basal Metabolism

One month instruction in basal metabolism.

#### COMBINATION COURSES

consisting of

1. Radiology and Laboratory.
2. Radiology, Laboratory, Electro-cardiography and Basal Metabolism.

Those eligible are nurses, college or high school graduates. Classes form the first of each month.

For information write:

DR. A. S. UNGER, Secretary—Board of Governors  
565 Manhattan Avenue, New York, N.Y.

## Hospital Statistics

*(Continued from preceding page)*

or if approved, to be finally submitted to the various provincial authorities for their approval, so that one set of forms would suffice for both Provincial and Dominion requirements.

It was further agreed by the conference that these revised forms be sent out by the Dominion Bureau of Statistics for 1934 and that, when the returns were received and analysed, further improvements might be made which would be a subject for discussion at the 1935 meeting of the Canadian Hospital Council and also at a subsequent conference of the Dominion Bureau of Statistics, the Provincial Departments of Health and Committees of the Council.

The returns received for 1934 showed a distinct improvement over previous returns in the quality of the data received, but it was found that certain questions were either not answered or answered incorrectly by public hospitals in different provinces. In order that the figures submitted for all hospitals have the same content, it is absolutely essential that the meanings of terms such as bed capacity, in-patient, admission, patient day, etc., be given the same interpretation in each province.

To draw up forms covering both classes of data was not considered advisable in view of the extremely varied variety of the medical data collected by the provinces. It was therefore decided that the inclusion of medical data on the schedules to be subject for future deliberation by provincial hospital authorities and that the schedules should include fundamental data only, to be shown under the following three divisions: (1) general information concerning each hospital such as auspices, class of hospital, bed capacity, services supplied, schools of nursing, special departments, personnel and other items of a general nature; (2) movement of population, classes of patients, collective days' stay, classification of patient days, births, deaths and discharges and, (3) financial statement showing balance sheet, revenues and expenditures.

### Conclusion

Until standard definitions of hospital terms prevail in all the provinces and a uniform method of computing the patient day prevails in each province, it would be futile to expect that data covering total days' care of adults and infants will be satisfactory. A questionnaire was sent out to all public hospitals to ascertain the methods used in calculating a patient day. The results showed a great need of adopting a uniform method of computing patient days. 294 public hospitals counted the day of admission of adults as a whole day, 85 as a fraction of a day and 78 did not take it into account. 241 hospitals counted the day of discharge or death as one day, 79 as a fraction of a day, and 137 did not count it. 291 hospitals counted the day of admission and day of discharge

of adults and children as one day; 156 as two days; 9 as one and one-half days and 1 as one-half day. 251 hospitals counted the day of birth of infants born in hospital as a whole day, 77 as a fraction of a day, and 73 did not count it. (This question was not applicable to 56 hospitals.) 258 hospitals counted the day of admission and discharge of infants born in hospital as one day; 134 as two days, 7 as one and one-half days, and 2 as one-half day.

Even in the same province different methods of calculating the patient day were found to exist and the same lack of uniformity in the method of presenting other fundamental data was found fairly general. For example, still births in some hospital were counted in with deaths and not by other hospitals in the same province. Live births were included among patients admitted by some and not by others. Even in reporting the number of patients under care, there were found inaccuracies as many hospitals included newborn infants, while others limited the term "Patient" to adults and children.

In view of the desire of hospital authorities throughout Canada to see established a uniform accounting system in all public hospitals, it would seem absolutely necessary for hospitals to keep complete records of the number of patients cared for in private, semi-private and public wards. Unfortunately, the percentage of public hospitals that are able to give accurate information under these headings is extremely small and the figures submitted do not lend themselves, at present, to close analysis.

The classification of patients into private, semi-private and public wards is necessary if we wish to determine comparative unit costs of each, as between services rendered. Only by such classification can figures representing day costs be made more reliable and comparable.

The further classification of patient days by pay and free should be compiled by all public hospitals in view of the economic and social importance of the information to be obtained, which would be made available from year to year for each province and the Dominion as a whole.

Since public hospitals more and more have to depend on provincial and municipal aid for the great majority of public ward patients, it would seem only natural that hospitals should be able to give accurate figures covering days' stay of patients in public wards, whose maintenance was paid respectively by themselves or relatives or by municipalities, as also the number of days' care given to free patients for whose maintenance the hospital receives no remuneration whatsoever.

Unless such information is carefully collected and recorded by hospitals, it will not be possible for these hospitals to fill in correctly the financial forms which, in their very nature, depend on the statistical records kept of the movement of population.



# WE WOULD LIKE TO KNOW—

*The Editorial Board will be pleased to answer in this column any question they can that will be of general interest to hospital workers. Kindly mail questions directly to the Editor.*

**Q.** Occasionally we get inflammatory conditions arising in post-operative wounds, particularly in the abdomen. We have checked every possible source that we can think of by culture and other methods and wonder if you have any further suggestions to make?

**A.** The methods you have used are commonly accepted ones although it is noted you have overlooked taking cultures from the nose and throat of your surgeons. Have you given any thought to catgut allergy? Catgut comes from the intestines of sheep, and although every care is taken to sterilize it, such sterilization does not remove the toxins that remain after the death of the bacteria. Dr. W. W. Babcock in the January, 1935, issue of the American Journal of Surgery reports on 120 cases in which reactions to catgut, both plain and chronic, to silk, horsehair, silver wire and alloy steel have been studied. He says in part, "that particularly in partial thyroidectomy, it is common to see the wound heal kindly and then after 7 to 10 days become angry and edematous and even open up with a discharge of bloody serum. Similar reactions may occur in deep abdominal wounds and be so masked by the overlying tissues as to be unrecognized unless external wound opens." The above reasoning may partly explain your problem and we suggest that you procure this article if it is not at present on your files.

**Q.** Should our Night Supervisor, who is in charge of the hospital from 7 p.m. to 7 a.m., be responsible for her actions to the Superintendent or the Superintendent of Nurses?

**A.** The term "Night Supervisor" covers a multitude of sins and upon investigation it is often found that such a person is the Night Administrator, Night Superintendent of Nurses, Dispenser, Maternity Supervisor, and whatever other duties can be thought up for her. If the "Night Supervisor" takes charge of the building during the night she is for the time being the "Administrator." If she is responsible for the nursing care of patients she is also the "Night Superintendent of Nurses," therefore she will report her administrative problems to the Administrator, her nursing problems to the Director of Nursing and so on to the other department heads whose responsibilities she assumes during the night period. If she were given her proper title of "Night Superintendent" or its equivalent, there would be no question of indecision about her responsibilities. This appointment is one of the most responsible ones in the administrative group and yet all too often we find the appointee with very little authority.

**Q.** What strengths of alcohol are most suitable for use in the hospital?

**A.** As an antiseptic, for the purpose of sterilizing instruments, etc., 65%, as an astringent, 90%.

**Q.** Should the admission urinalysis be included in the ward rates or made as an additional charge to the patient?

**A.** This is really a matter for the individual hospital to decide. It is imperative that an admission urinalysis be made and yet in certain cases it can easily be seen that objection will be raised either by the attending doctor or the patient if they are charged for something that was not specially requested. For this reason it is suggested that the cost of this examination should be included in the ward fee if at all possible, if such is not possible then we suggest that a charge not to exceed the actual cost of the analysis be made.

**Q.** What do you recommend as the ideal flooring for a hospital?

**A.** We do not think that any flooring has yet been designed that will meet all the requirements of good hospital service, namely, low initial cost, durability, minimum upkeep, sound absorbing properties, and sanitary. Terrazza floors

seem to be in greatest use because if installed with the building their initial cost is not prohibitive and the upkeep is very low, but even if laid in section they have a tendency to crack. They are noise reflecting and cause fatigue among nurses and other staff. We believe that if cost is not a final factor that the so-called battleship linoleum or rubber tile is the all-round choice. Floors of this type have extremely long life providing they are laid properly in the original instance. Care must be taken to see that all seams are carefully sealed. Cost of the upkeep may be minimized if in the case of linoleum the material is varnished at the time it is laid with special varnishes for this purpose. They are quiet when walked on and produce the minimum of fatigue. The rubber tile although more expensive to lay is relatively costless in upkeep as all it requires is sponging. We would suggest you make a decision from among these three.

**Q.** There is a small committee of doctors representing the medical staff who attend our board meetings and when a vote is taken upon a motion they participate in the voting. Is this a correct procedure?

**A.** From the wording of the question it would appear that this committee of medical men is actually the "medical advisory board," and if such is the case their duties are to make recommendations and advise the board on professional problems but they do not form any part of the membership of the board therefore they naturally will not vote. The governing body is solely responsible for the hospital policies and because of such are the only people who can vote. This procedure, of course, does not bar the "medical advisory board" from themselves voting on a motion of recommendations to the governing body, but such motions are usually presented and voted upon at a meeting of their own and the chairman of the committee then presents the recommendation to the governing body.

*(Continued on page 28)*

## "FLOWERDALE" TEA

**Broken Orange Pekoe**  
INDIVIDUAL TEA BAGS OR BULK  
FOR HOSPITALS



Cartons of 500 or 1000 Bags  
**R. B. HAYHOE & CO., LTD.**  
7 FRONT ST. E. TORONTO, CANADA

Send us sample order. We ship same day as order received.

## CANADIAN LABORATORY SUPPLIES LIMITED



**Canada's Leading Laboratory Supply House**



**Headquarters in Canada for Laboratory Apparatus and Chemical Reagents**

**32 Grenville St.**  
296 St. Paul Street West

**Toronto 5, Ont.**  
Montreal, Que.

# The Growth of Household Science in Ontario

**S**IGNAL honour was paid this spring to Miss Annie L. Laird, Professor of Household Science, University of Toronto, by the unveiling and presentation of her portrait to the University. For some time many of the graduates in Household Science had felt that this recognition should be made of the untiring work, influence, and wise counsel of their Dean, Miss Laird. She has given of herself unsparingly, not only in her duties as head of her department, but in her interest in all of her graduates and their professional problems, and particularly in her interest in the growth and development of the status of Household Science in all its ramifications and affiliations.

The progress and standing of first the Toronto, then the Ontario, and finally of the newly organized Canadian Dietetic Association, are very largely due to the vision, influence, and constructive assistance of Miss Laird. Thus in recognition of all that she has meant to the profession of Household Science in Ontario and in Canada at large, and as an expression of their appreciation and love for her, her graduates desired to have her portrait painted and presented to the University. The thought was conceived and carried out without the knowledge that the presentation was to co-incide with Miss Laird's resignation from the University.

Miss Laird was born at the Methodist Parsonage in Fergus, Ont., daughter of the Rev. and Mrs. John G. Laird. Her high school education was obtained in Collingwood, Orangeville and London, as her father was moved from charge to charge, due to the custom of his Church. Later the question of further education arose. She was interested in Household Science rather than Arts. The only schools offering such a course were at Pratt Institute, Brooklyn; Teachers College, New York; and Drexel Institute, Philadelphia. As her sister was attending Bryn Mawr College, twenty miles from Philadelphia, she chose to attend Drexel.

She graduated in 1902 and was immediately appointed Senior Instructor at the Lillian Massey School of Household Science and Art, in Toronto. The following year she became Principal of that school, and in 1906 she was appointed Associate Professor of Household Science in the University of Toronto. In 1918 Drexel Institute conferred on her the degree of Master of Science, and in



ANNIE L. LAIRD.

1926 she was accorded the honor of being one of the first two women to be granted the standing of Professor by the University of Toronto.

Miss Laird has been associated with the growth and development of Household Science since its earliest stages. In 1902 the first two year normal course in Household Science in Canada was started by Lillian Massey Treble in co-operation with the Department of Education of the Province of Ontario. University matriculation was required for entrance, and the Department of Education granted the diploma on completion of the course.

In 1911 the Department of Education made the regulation requiring that all teachers of Household Science have a regular teacher's certificate in addition to their work in Household Science. Thus

the two year Normal Course was dropped, and only graduates of a degree course in Household Science were admitted to the Ontario College of Education.

This was an important step forward in raising the status of Household Science and demanding of its teachers qualifications equivalent to those held by teachers in similar academic spheres.

In 1902 at the Lillian Massey School there were also registered two students in a four year course. The degree course was established in the University, and the students were sent for their subjects in Household Science to the Lillian Massey School, which was situated in the Fred Victor Mission at Jarvis and Queen Streets. In 1906 the University of Toronto took over the work of the School and the staff received their appointments from the University. In 1911 the School was fully merged with the University as the Department of Household Science, and was moved to the newly completed Household Science Building on the University campus.

The Household Science building stands as a monument to the vision and generosity of the persons most closely concerned with its conception. The late Chancellor Burwash of Victoria College was keenly interested in Household Science, and desirous of having it established in the University. He approached Mrs. Lillian Massey Treble and through her generosity arranged that she would donate a building when he was able to arrange for the course at the University. Hence on July 2nd, 1908, Miss Laird was given the honour of turning the first sod, and on

December 3rd, 1908, Chancellor Burwash laid the corner stone. It was Chancellor Burwash who outlined the first course in Household Science at the University, and that course still remains the nucleus, with some adjustments of course, for the work given by the department to-day.

Mrs. Treble's interest in the new building was so sincere and deep that she desired to discuss in detail all the plans and construction with the architects. Due to ill health and family bereavement at this period she was not able to devote as much time to this supervision as she desired, hence delay occurred and the early progress was slow. However in the fall of 1911 the building was opened for class work.

This season was celebrated the twenty-fifth anniversary of the building, and it is a tribute to its founders that it still stands as one of the finest and best equipped buildings of its nature on the continent.

Throughout this history of the growth and development of Household Science in this Province runs the guiding hand of our Miss Laird. Without her wisdom, her organizing ability, and above all her kindly personality, the story would have been a far different one. It is with regret that we her graduates, numbering nearly one thousand in all, see her leave the Department. But we wish her joy and happiness in her leisure time to come, and though we have lost her as our Dean we are confident that we still may turn to her as our friend.

Note: The Canadian Dietetic Association wishes to express their thanks to the Canadian Hospital Council and to the Canadian Hospital Magazine for their courtesy in granting space in the June issue for the reports of the First Convention of the Canadian Dietetic Association, held in Toronto May 22-23, 1936.

#### Paintings by Toronto Doctors for Toronto Western Hospital

Quite a number of leading Toronto physicians devote a part of their hard earned leisure to the pursuit of Art, with extremely pleasing results. Visitors to the Doctors' Lounge of the Toronto Western Hospital will have an opportunity of viewing several beautiful oil paintings by well known medical men. Three of these were painted by members of their medical staff—a view of Lake O'Hara, by Dr. J. N. McKinley, Eye, Ear, Nose and Throat Specialist, an autumn scene by Dr. F. C. Trebilcock, Chief of their Department of Ophthalmology, and a winter study by Dr. W. H. Beecher Locke, urologist. Dr. Harvey Agnew contributed a lovely painting, taking as his subject a Totem Pole scene in an Indian village near Wrangell on the Pacific Coast, reminiscent of his visit to Alaska two years ago. Donations of paintings by several other members of the medical staff are anticipated.

We have not fulfilled our obligations to the patient if there is not a concise statement in writing showing why he entered the hospital, what happened during hospitalization and under what condition he left. Are your case records complete and properly filed?

Every person you contact is a potential patient; be courteous to them so they will have confidence in your hospital.

## A Comfort for Aged Patients

As extra nourishment between meals during the day,—nourishment that the most delicate stomach can accept and the comfort and flavour of which everyone, young or old will enjoy—and as a "nightcap" just before retiring recommend



## OVALTINE

Tonic Food Beverage

#### Hospital Grants in Alberta Lowered

At a recent session of the Alberta legislature, the provincial grant payable to public hospitals was reduced from 50c. to 45c. per patient diem. Hospitals have been notified by the Secretary of the Provincial Department of Public Health that the grant for the first six months of the year shall be at the rate of 45 cents. During the second half of the year, the amount paid will not be less than 45c., but may be higher, although not exceeding 50c., depending upon how much of the estimated allotment for this purpose be still available. The 1936 estimates for hospital expenditure have been increased from \$393,000 to \$410,000, and the amount of money available for distribution in the second half of the year will depend upon the portion left of this sum.

This will mean some loss to the hospitals. In Calgary, it is estimated that the loss on the General and Isolation Hospitals will be \$3,000. St. Michael's Hospital at Lethbridge anticipates a lost revenue from this source of between \$3,000 and \$4,000. The Galt Hospital at Lethbridge estimates a loss of \$1,600 a year for the complete year.

A permit for operation or autopsy is of no value unless it is in writing.

A deficit in money is sometimes unavoidable, but a deficit in service never.

There is no higher code of ethics than that required of a hospital.

# Here and There in the Hospital Field

HARVEY AGNEW, M.D.,

Secretary, Canadian Hospital Council

AKLAVIK, N.W.T.—Right Rev. A. L. Fleming, it is stated, is endeavouring to raise funds to rebuild Aklavik hospital. If adequate support is forthcoming, the necessary lumber can be shipped north this summer and operations started, it is believed, before freeze-up. The work of the Anglican Church in the western part of the Arctic Diocese is threefold, pastoral, medical and educational. The missions at Fort McPherson and Aklavik in the Mackenzie River district minister to Loucheux Indians and white people for the most part. Yearly trips are made from Aklavik as far as Baillie Island to visit the settlers along the Coast. Other mission stations are situated at Shingle Point, and the Arctic Mission has also been running three schools in this district.

\* \* \*

COBOURG, ONT.—A \$25,000 maternity wing was formally opened on May 12, the birthday of Florence Nightingale, by Dr. J. A. Faulkner. It is stated that the new wing extends over the operating room. The second floor contains sterilizing rooms, a very modern and scientifically designed nursery, and a special delivery room. On the ground floor there are more sterilizing rooms and the clinic rooms.

CORNWALL, ONT.—The new \$75,000 wing of the Hotel Dieu Hospital was formally opened recently and the hospital now has accommodation for 150 patients. The new wing, it is stated, provides spacious public wards, solariums and modern operating rooms with up-to-date equipment.

\* \* \*

EDMONTON, ALTA.—In a recent report of the Royal Alexandra Hospital, the Group Hospitalization Plan showed excellent progress. The executive committee report, it is stated, disclosed 145 groups, 1,620 contracts and 3,700 beneficiaries.

\* \* \*

HALIFAX, N.S.—A large framed photo of the late Mrs. A. J. Sullivan, of Halifax, the first nurse in Nova Scotia to receive her graduating diploma, hangs in the old assembly hall of the Victoria General Hospital. Lord Aberdeen, while visiting the hospital with Lady Aberdeen shortly after becoming Governor-General of Canada, discovered Miss Sheridan, who had been the "trusty" of the institution for 12 years without recognition or hope of it. He gave her a diploma and ordered that a training class for nurses be established in one of the universities. Miss Sheridan was shortly afterward made night supervisor of

## Hospital and Institutional CROCKERY, SILVER and GLASSWARE

Distributors for

JOHN MADDOCK & SONS, LTD.,  
ENGLAND

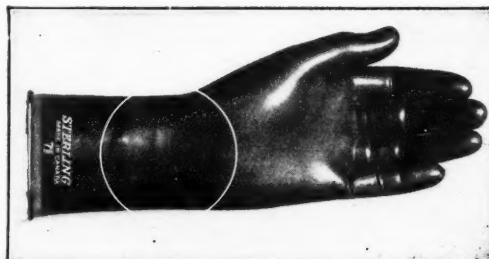
We specialize in Institutional Equipment and sell direct. May we send you quotations on any of the above lines you may require?

British and Colonial  
Trading Co.  
Limited

284-6 Brock Avenue - TORONTO

## Sterling Surgeons Gloves

"CANADIAN MADE — UNSURPASSED"



### They Clasp the Wrist So Comfortably

The present specifications for Sterling Gloves were adopted after many experiments and with the co-operation and advice of prominent surgeons. They possess unusual fitting qualities.

*Specialists in Surgeons' Gloves  
for 23 Years.*

Sterling Rubber Company  
LIMITED

GUELPH - CANADA

Largest Specialists in SEAMLESS Rubber Gloves  
in the British Empire



the hospital, which position she held until her marriage. She died in 1913, when 43 years of age.

\* \* \*

KINGSTON, ONT.—During the week of June 22 the Kingston General Hospital celebrated the fiftieth anniversary of the founding of the training school for nurses. About four hundred and fifty graduate nurses attended the banquet arranged by the Nurses Alumnae Association in Grant Hall, Queen's University; Dr. Ephraim Hooper, the first medical superintendent, gave an address.

\* \* \*

TORONTO, ONT.—The Frank Yeigh Old Boys' Association is dedicating to their teacher and founder of the association a room at the new St. Mary's Hospital, Labrador, recently erected by the Grenfell medical mission. The mission hospital was originally at Battle Harbor, Labrador, but, when it was burned some time ago, a new one was constructed at St. Mary's River.

\* \* \*

TORONTO, ONT.—At the Executive Committee meeting of the Ontario Division of the Canadian Red Cross Society, recently held in Toronto, the decision was made to approve applications for the operation of the two new outpost hospitals, one at Jellicoe, Sturgeon River gold field district, served for 1½ years by the Red Cross railway hospital coach, and the other at Haliburton, 65 miles northeast of Lindsay. The latter hospital will serve approximately 2,900 people.

\* \* \*

TORONTO, ONT.—Grace Hospital has closed after 48 years of service. Although merged with the Toronto Western Hospital in 1926 by an Act of Parliament, it continued operations in its own building. However, increased accommodation at Western Hospital through the erection of a new wing last year made a complete merger possible, and patients, staff, equipment, etc., have now been absorbed by the Western Hospital. The building is being converted into a residence for graduate nurses.

Grace Hospital, the third oldest institution of its kind in Toronto, began as a small dispensary for the sick poor, at the corner of Richmond and Victoria streets. Its training school for nurses was opened in 1890, when the hospital was located at the corner of Shuter and Jarvis Streets. In 1893 the present building, which had formerly been a hotel, was procured and transformed into a hospital. A new charter was taken out in 1902 and the name Grace Hospital adopted.

It is reported that Grace Hospital was the first hospital in Toronto to insist that every baby have its own individual cot and its name affixed to its back with adhesive.

\* \* \*

VICTORIA, B.C.—Premier Pattullo reports that British Columbia will set up its Health Insurance Commission almost immediately, it is stated. The Act was proclaimed to go into effect on May 18, with the commission to be set up now, and health levies to follow this fall.

#### Survey Being Made of Calgary General Hospital, Calgary, Alberta

A survey of the Calgary General Hospital was made in June by Dr. Harvey Agnew. This survey was requested by the Board of Trustees.



## Maple Leaf ALCOHOL

Medicinal Spirits  
Iodine Solution  
Absolute Ethyl B.P.

Rubbing Alcohol  
Denatured Alcohol  
Anti-freeze Alcohol

Adapted to Hospital Services. Tested precisely from raw materials to finished products. All processes according to Dominion Department of Excise Specifications and the British Pharmacopoeia.

The co-operation of our Research Laboratories is available at all times. Graduate chemists supervise this division which is conducted for the benefit of all Maple Leaf Alcohol users.

CANADIAN INDUSTRIAL ALCOHOL  
COMPANY, LIMITED

Montreal Corbyville Toronto Winnipeg Vancouver



### C-I-L HOSPITAL SHEETING the "MATRICULATED" Sheeting

Has passed all these tests with "Honors":

Tensile,  
Urine, Blood,  
Acids, Oils, Alcohol, Ether,  
Ammonia,  
Oxygen Aging,  
Iodine, Chloroform, and other  
anaesthetics,  
Caustic and Live Steam  
Sterilization.

Nurses Like it.  
Executives recommend it.

Government Tenders specify it as the standard of quality.



C-I-L HOSPITAL SHEETINGS

Manufactured 100% by

CANADIAN INDUSTRIES LIMITED  
"FABRIKOID" DIVISION  
NEW TORONTO, ONTARIO

## We Would Like To Know—

(Continued from page 23)

**Q. Is there a standard of colours for distinguishing pipe lines?**

**A. Yes.** The American Society of Mechanical Engineers have the following code:

High Pressure Steam—white.  
Exhaust Steam—buff.  
Low Pressure, Fresh Water—blue.  
Boiler Feed, Fresh Water—white and blue.  
Compressed Air—grey.  
Fuel Oil—black.  
Gas—aluminum.  
Brine—white and green.

We have not a Canadian code on our files but if such is available it will be published in a subsequent issue.

**Q. We have recently had some discussion as to the length of vacation of the Superintendent. Periods ranging from 2 to 4 weeks were suggested but no agreement has been arrived at.**

**A.** If the Superintendent has sufficient control of his thinking processes that it is possible for him to completely forget about hospital problems when he leaves his office each day until he returns the following morning and can perform his duties in 5½ days each week then perhaps, providing his salary is adequate, 2 weeks' vacation should be quite sufficient and, we think, would be perfectly agreeable to the Superintendent. Experience shows, however, that practically every waking hour of the Superintendent is devoted to thoughts about his or her hospital and that in many instances even a vacation does not allow him to take his mind completely off his problems. Under such circumstances it would seem that the length of vacation could be profitably left to his discretion and it is very unlikely that if a vacation period is left to the Superintendent's discretion that there would be any abuse of the confidence so placed in him. After all if he is capable of handling the affairs of the institution year in and year out, he should be perfectly capable of solving this matter without outside help.

**Q. Can you give us a ruling on the classification of major and minor operations?**

**A.** We regret that this question requires a too lengthy reply to be answered in this column, but as we are fortunate in having on our files the classification as given by many leading authorities, it is our intention in the near future to publish an article covering the subject completely. As we presume your problem is not an urgent one we would suggest that you wait until this article appears.

## Early Hospital Days in the Yukon

We are indebted to Mr. Frederick Landon, M.A., F.R.S.C., Chief Librarian of the University of Western Ontario, London, for the following interesting little news item concerning the establishment of a small hospital in the Eldorado and Bonanza district during the Klondike gold rush. Mr. Landon has very interesting and valuable files of early issues of many papers and magazines, and this notation was taken from the Klondike Miner and Yukon Advertiser, Dawson City, of September the 10th, 1898. Our files do not contain any reference to a hospital at Grand Forks, either in the Yukon or across the border in Alaska. This hospital should not be confused with the public hospital at Grand Forks, British Columbia, which is in southern British Columbia in the Kettle Valley.

"The miners on Eldorado and Bonanza have for a long time felt that some more convenient and adequate provision ought to be made for their sick, but how to accomplish it was the question. A combination of circumstances made the present time opportune if not imperative. With the hospitals in Dawson crowded to their utmost capacity, friends of the sick did not care to carry them down over

that severe trail on the chance of securing a vacant cot. They looked for relief and at last the right man arrived upon the scene in the person of J. A. Stirling, M.D., M.R.C.S., formerly Demonstrator of Anatomy in the Royal College, Kingston. Dr. Stirling has been in general practice 11 years, and for 2 years has conducted a private hospital in Hamilton, Ontario, with splendid results. Grasping the situation at once and recognizing the need he immediately set about the task, secured on good terms a suitable building, fitted it up and opened it as a general hospital on the 3rd of September with three typhoid patients. Dr. Stirling has located permanently at Grand Forks and so will personally oversee the institution, and it is his intention to have the assistance of a thoroughly competent staff of trained nurses so that patients may have everything that skill and care secure. The hospital is to be conducted as a commercial institution, paying its own way and asking donations from no man. At the same time the management purposes to reserve one cot where, in case of necessity, needy and worthy patients may receive free treatment. This hospital does not, therefore, in any way interfere with the charitable institutions in Dawson that have done and are doing such excellent work; institutions that will always have a warm place in the sympathies of the people and a large share of their generosity. In order to provide part of the initial expenses, tickets of membership will be sold securing to members a free treatment, board and nursing during sickness. But as experience teaches that the ticket system is by no means a profitable one for the hospital, the number of tickets will be limited to probably twenty-five, a large proportion of which have already been promised. For those who have not tickets the rates will be at the same as the Dawson hospitals. We wish the enterprise the success that it well deserves."

## Standard for Minimum Equipment for Fracture Treatment in Hospitals

1. That all general hospitals be equipped to care for fractures; that the minimum equipment for the transportation and emergency treatment of fractures be the following or its equivalent: Thomas upper extremity splints; Thomas lower extremity splints with traction straps, slings and buckle straps; Hodgen splints; coaptation splints, assorted sizes; Cabot wire splints; straight pieces of wood (of assorted length, width and thickness) for splints; plaster of Paris bandages; some form of overhead frame for suspension; suitable X-ray apparatus, including a portable machine, if practicable.

2. That it is highly desirable that one individual surgeon be responsible for the supervision of the care of fractures in each hospital service.

3. That special record sheets be used for fracture cases.

4. That a close follow-up be maintained on all fracture cases for such time as necessary to establish an accurate knowledge of end results.

## DIETITIAN DESIRES POSITION

Experienced in supervising, executive work and housekeeping. Can typewrite also and do bookkeeping. Box 161, Canadian Hospital, 177 Jarvis St., Toronto.

**HUNTER COLLEGE, NEW YORK CITY, OFFERS SIX WEEKS' INTENSIVE COURSE IN X-RAY TECHNIQUE, COMMENCING NOVEMBER 4, 1936.** Particulars from College or Dr. E. Fox, 384 E. 149 St., New York City. ALSO—short courses in laboratory technique.

# THE BUYERS' DIRECTORY


*A directory of reputable manufacturers and distributors of Equipment and Supplies for Hospitals. Your perusal of these announcements, together with other advertisements in this issue, will be appreciated.*

**CHENEY CHEMICALS**  
LIMITED  
180 Duke St., Toronto  
**NITROUS OXIDE, OXYGEN,  
ANAESTHETIC GASES**

• • • • •  
**GEO. H. HEES SON & CO.,  
LIMITED**  
276 Davenport Road, Toronto  
Manufacturers of Venetian Blinds,  
Window Shades, Pillows, etc.

• • • • •  
**BERKEL**  
Meat and Bread Slicers.  
The World's Best.  
**BERKEL PRODUCTS CO.  
Limited**  
533-535 College St., Toronto.  
715 Notre Dame St. W., Montreal.

• • • • •  
**HERDT & CHARTON, INC.**  
2027 McGill College Ave., Montreal  
Hypodermic Syringes and Needles,  
Clinical Thermometers, Bender's Elastic and Crepe Bandages, Delamotte's Catheters and French Pharmaceutical Specialties.

• • • • •  
 **ALEXANDER & CABLE  
LITHO. CO. LIMITED**  
129 Spadina Ave., Toronto  
Diplomas in Leather Cases, Clinical Record Forms, etc.  
Engraved Cards and Invitations

• • • • •  
**PYRENE MFG. CO. OF  
CANADA, LIMITED**  
91 Don Roadway, Toronto  
Fire Extinguishers of every type—all approved by Canadian Fire Underwriters Laboratories

• • • • •  
**S. C. JOHNSON & SON,  
LIMITED**  
Brantford, Canada  
Genuine Johnson's Paste Wax for Easy Floor Maintenance — Polishes, Preserves, Protects

## Obstetrician Opposed to Use of "Twilight Sleep"

Dr. Rudolph Holmes of Chicago, who introduced "twilight sleep" to the United States from Germany 20 years ago, has apologized for doing so. The apology was made at the recent American Medical Association meeting in Kansas City. The debate ranged around assertions of many physicians that the drugs that relieve the mother's pain are not safe for the baby. Many defended the up-to-date methods. Dr. Holmes is said to have made the statement: "I was the man who first brought scopolamine to the United States. I didn't know what I was doing. I have found out since. We must protest vigorously against making the human mother an animated mass without any mentality."

Dr. Gertrude Nielsen, of Oklahoma City, mother of three children born without the use of modern painless methods, pointed out that the thwarting of the normal course may damage the mother's personality by nervous disorders.

This discussion took place following the report by Drs. Kane and Roth of Washington concerning the very satisfactory results from a new obstetrical analgesic, a compound of paraldehyde and benzyl alcohol. A number of speakers reported favourably on the use of the newer analgesics and sedatives.

## Chain of Missions in North

Three large hospitals located at Fort Smith, Aklavik and Fort Simpson are under the direction of Oblates of Mary Immaculate in the Diocese of Bishop Gabriel Breynat, Bishop of Mackenzie. At the present time food, clothing, medicines, books, furniture, tools, etc., are being bought in Edmonton, and will be distributed to the Roman Catholic Church missions situated in the Mackenzie River district on the Arctic Coast and on the islands beyond. These supplies are requisitioned a year in advance, and Father J. Serruot, business

**I. G. PICKERING CO. LIMITED**  
46-52 Noble St., Toronto  
Guaranteed, blisterproof FORMICA will not stain. Ideal for dining-room table tops, bedside and overbed tables. Complete data on request.

• • • • •  
**EASTMAN MACHINE CO.**  
Buffalo, New York  
Gauze and Bandage Cutters.  
Sales Representatives: W. J. Westaway Co., Ltd., Main and McNab Sts., Hamilton; 401 Spadina Ave., Toronto; 455 Craig St. W., Montreal.

• • • • •  
**C. A. DUNHAM CO., LTD.**  
1523 Davenport Rd., Toronto  
Steam Traps, Valves, Vacuum Pumps, Pressure Reducing Valves, Unit Heaters, and  
**DIFFERENTIAL HEATING SYSTEMS**

• • • • •  
**M. KLEIN & COMPANY, INC.**  
220 Fifth Ave., New York, N.Y.  
Best quality Hypodermic Syringes, made in U.S.A. Hypodermic Needles, Rustless and Carbon Steel; Clinical Thermometers; Hospital Razor Blades.

• • • • •  
**THE HOBART MFG. CO. LTD.**  
119 Church St., Toronto  
 Electric Dishwashers, Slicers, Mixers, Vegetable Peelers, etc.

• • • • •  
**HOSPITAL AND KITCHEN EQUIPMENT CO. LIMITED**  
67 Portland Street, Toronto  
Electric Food Trucks, Labor Tables, Steam Tables, Coal and Gas Ranges.  
**REPAIR PARTS FOR ALL  
GEO. SPARROW EQUIPMENT.**

• • • • •  
**WROUGHT IRON RANGE CO., LTD.**  
 149 King St. W., Toronto  
Manufacturers of Hospital and Kitchen Equipment



# THE BUYERS' DIRECTORY

## APPLEGATE'S INKS & MARKERS

The best INKS made (heat-in or cold) for marking linens. Standard for 36 years.  
APPLEGATE CHEMICAL CO.  
5630 Harper Ave. - Chicago, Ill.

• • • • •

## THE BEAVER LAUNDRY MACHINERY CO., Limited

Toronto - Montreal  
We specialize in Laundry Equipment and Supplies for Hospitals.

• • • • •

## CURTIS **Eye Comfort** LIGHTING SPEEDS RECOVERY

Curtis Lighting of Canada, Limited  
260 Richmond St. West, Toronto

• • • • •

## BURKE ELECTRIC & X-RAY CO., LIMITED

61 Yorkville Ave., Toronto  
X-Ray and Physio-Therapy Apparatus.  
Sales — Supplies — Service

• • • • •

## THE CANADIAN FEATHER & MATTRESS CO., LIMITED

41 Spruce St., Toronto  
Spring - Air Mattresses  
Also Hair Filled, Laver Felt and Inner Spring Mattresses, Pillows and Comforters.

• • • • •

## GEO. B. MEADOWS WIRE & IRON WORKS CO.

479 Wellington St. W.,  
Toronto, Ont.  
ADelaide 2980

• • • • •

## WILSON SCIENTIFIC CO., LIMITED

59-61 Wellington St. W., Toronto  
ELgin 6239  
Hospital and Laboratory Apparatus and Supplies.

manager of the missions, has been in Edmonton for some time requisitioning and supervising the shipment of a year's supply.

Twenty-five points are listed as centres of missionary work among Indians and Eskimos. An aeroplane is to be brought from Germany for the use of the missionaries in this work.

This missionary activity has its industrial side too. A sawmill is operated at Fort Resolution; four farms at Fort Smith, Resolution, Providence and Simpson, supply produce to the schools and hospitals, and the commissariat department provides a market also for 150 caribou and 12,000 fish every year. They also have a fleet of three power boats.

Through the influence of the schools, hospitals and churches, and under the guidance of the missionaries themselves standards of living have been raised and a better moral status has been achieved throughout the northland.

## Lord Tweedsmuir Addresses Graduating Class

Lord Tweedsmuir, Governor-General of Canada, gave especial honour to the graduating class at the Victoria Hospital, London, Ontario, when he attended their exercises. He referred to a time in the South African War when he had under his command 500 nurses who had come from England to a concentration camp, which they turned from a plague spot into a sanatorium. He pointed out that, while nurses need not expect worldly reward, such as international fame like Hollywood film stars, they would experience from hour to hour the major christian virtues of charity, patience and sympathy.

Dr. Harvey Agnew, Secretary of the Department of Hospital Service of the Canadian Medical Association, gave the special address of the evening, and Mrs. Oliver Rhynas, President of the Women's Hospital Aids' Association of Ontario, presented the diplomas. The Chairman of the Trust, Mr. F. G. Fuller, presided, Miss Hilda Stuart, the Superintendent of Nurses presenting the fiftieth annual report of the school.

## "JUNKET"

Hansen's Trade-Mark For  
RENNET DESSERT POWDER  
Makes milk more appealing to patients.  
Write for free sample to  
"THE 'JUNKET' FOLKS"  
833 King St. W. - Toronto

• • • • •

## USE CASH'S WOVEN NAMES

to mark all Hospital linen, and wearables of nurses, physicians and attendants. Let us figure on your needs.  
Individual Name Prices:  
3 doz. \$1.50 9 doz. \$2.50  
6 doz. \$2.00 12 doz. \$3.00  
J. & J. CASH, INC.  
166 GRIER ST. - BELLEVILLE, ONT.

• • • • •

## CLAY-ADAMS COMPANY, Inc.

25 East 26th St., New York, N.Y.  
Headquarters for Charts, Models, Skeletons, "DUSTITE" Steel Display Cabinets for Anatomical Models, Phantoms, Manikins, Dolls, etc. Catalogs gladly sent on request.

• • • • •

## P. PASTENE & CO. LIMITED

5510 St. Dominique Street,  
Montreal, Que.  
OLIVE OIL  
Pure Olive Oil for All Purposes.

• • • • •

## J. & J. TAYLOR LIMITED

Toronto Safe Works  
145 Front St. E., Toronto  
Safes for Radium, X-Ray Negatives, Books, Cash, and any special requirements

• • • • •

## BENEDICT PROCTOR MFG. CO., LIMITED

Trenton, Ontario  
Individual Sugar Sifters, Tea Pots, Cream Jugs, Sugar Bowls, Toast Covers, etc. Write for Catalog.

• • • • •

## THERMOS BOTTLE CO., LTD.

1239 Queen St. W., Toronto  
**THERMOS**  
Jugs — Jars — Bottles  
Ask us to demonstrate the new jugs.

The CANADIAN HOSPITAL